CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2002-XXX

NPDES NO. CA0083470

FACT SHEET

CITY OF STOCKTON
AND
COUNTY OF SAN JOAQUIN
STORM WATER DISCHARGES FROM
MUNICIPAL SEPARATE STORM SEWER SYSTEM
SAN JOAQUIN COUNTY

I. PURPOSE

The purpose of this Fact Sheet is to give the Permittees and interested parties an overview of the proposed permit as well as to provide the technical basis for the permit requirements. Sections I through IV describe water quality problems from storm water and urban runoff, and permit conditions to address these problems. Sections V and VI discuss each major element of the Permittees' Storm Water Management Plan (SWMP), which also serves as a reference document during review of the permit.

II. THE NEED TO REGULATE STORM WATER DISCHARGES

A. Impacts

The quality of storm water and urban runoff are fundamentally important to the health of the environment and the quality of life in the Central Valley Region. Polluted storm water runoff is a leading cause of water quality impairment in the Stockton-San Joaquin-Delta Area (Area). Storm water and urban runoff (during dry and wet weather) are often polluted with pesticides, fertilizers, animal droppings, trash, food wastes, automotive byproducts, and many other toxic substances generated by urban environments. Water that flows over streets, parking lots, construction sites, and industrial, commercial, residential, and municipal areas carries these pollutants through the storm drain systems directly into the receiving waters of the Area. The water quality impacts and increased public health risks from municipal separate storm sewer system (MS4) discharges that affect receiving waters nationwide and in the Central Valley Region are well documented.

The **National Urban Runoff Program** (NURP) Study [U.S. Environmental

Protection Agency (U.S. EPA) 1983] showed that MS4 discharges draining from residential, commercial, and light industrial areas contain significant loadings of total suspended solids. Although the NURP Study did not cover industrial sites, the study suggested that runoff from industrial sites may have significantly higher contaminant levels than runoff from other urban land use sites. Several studies tend to support this observation. For example, in Fresno, a NURP project site, industrial areas had the poorest storm water quality of the four land uses evaluated. The study found that pollutant levels from illicit discharges were high enough to significantly degrade receiving water quality, and threaten aquatic life, wildlife, and human health.

The 1992, 1994, and 1996 National Water Quality Inventory Reports to Congress prepared by the U.S. Environmental Protection Agency (U.S. EPA) showed a trend of impairment in the nation's waters from contaminated storm water and urban runoff. The recent 1998 National Water Quality Inventory [305(b) Report][1] showed that urban runoff/storm water discharges affect 11% of rivers, 12% of lakes, and 28% of estuaries. The report notes that urban runoff and storm water discharges are the leading source of pollution and the main factor in the degradation of surface water quality[2] in California's rivers and streams.

The Natural Resources Defense Council (NRDC) 1999 report, *Stormwater Strategies, Community Responses to Runoff Pollution*[3] identifies two main causes of the storm water pollution problem in urban areas. Both causes are directly related to development in urban and urbanizing areas:

1. Increased volume and velocity of surface runoff. There are three types of human-made impervious covers that increase the volume and velocity of runoff: (i) rooftop, (ii) transportation imperviousness, and (iii) non-porous (impervious) surfaces. As these impervious surfaces increase, infiltration will decrease, forcing more water to run off the surface, picking up speed and pollutants.

2. The concentration of pollutants in the runoff. Certain activities, such as those from industrial sites, are large contributors of pollutant concentrations to the storm water system.

The report also identified several activities causing storm water pollution from

[1] *Quality of Our Nation's Waters: Summary of the National Water Quality Inventory 1998 Report to Congress* - U.S. EPA 841-S-00-001 - June 2000; *Water Quality Conditions in the United States: Profile from the 1998 National Water Quality Inventory Report to Congress* - U.S. EPA 841-F-00-006 - June 2000

[2] *Quality of Our Nation's Waters: Summary of the National Water Quality Inventory 1998 Report to Congress,* Chapter 12 State and Territory Summaries, California., pp. 282-83: 1998.

[3] *Clean Water & Oceans: Water Pollution: In Depth Report Stormwater Strategies, Community Responses to Runoff Pollution*. Natural Resources Defense Council (NRDC), 1999.

urban areas, practices of homeowners, businesses, and government agencies.

More recent studies conducted by United States Geological Survey (USGS)[4] confirm the link between urbanization and water quality impairments in urban watersheds due to contaminated storm water runoff. Furthermore, the water quality impacts of urbanization and urban storm water discharges have been summarized by several other recent U.S. EPA reports.[5] Urbanization causes changes in hydrology and increases pollutant loads which adversely impact water quality and impairs the beneficial uses of receiving waters.

Increases in population density and imperviousness result in changes to stream hydrology including:

1. Increased peak discharges compared to predevelopment levels;

2. Increased volume of storm water runoff with each storm compared to pre-development levels;

3. Decreased travel time to reach receiving water; increased frequency and severity of floods;

4. Reduced stream flow during prolonged periods of dry weather due to reduced levels of infiltration;

5. Increased runoff velocity during storms due to a combination of effects of higher discharge peaks, rapid time of concentration, and smoother hydraulic surfaces from channelization; and

6. Decreased infiltration and diminished groundwater recharge.

B. Benefits of Permit Program Implementation

Implementation of the MS4 permit requirements will significantly reduce pollutants in urban storm water in a cost-effective manner. Implementation of Best Management Practices (BMPs) should also reduce pollutant discharges, and improve surface water quality. The expected benefits of implementing the provisions of the City of Stockton and County of San Joaquin MS4 National Pollutant Discharge Elimination System (NPDES) permit include:

1. **Enhanced Aesthetic Value**: Storm water affects the appearance and

[4] *Water Quality in the Puget Sound Basin, Washington and British Columbia, 1996-98,*Circular 1216 - USGS 2000; *Water Quality in the Long Island-New Jersey Coastal Drainages, New Jersey and New York, 1996-98,* Circular 1201 - USGS 2000
[5] *Storm Water Phase II Report to Congress* (U.S. EPA 1995); Report to Congress on the Phase II Storm Water Regulations (U.S. EPA1999); Coastal Zone Management Measures Guidance (U.S. EPA 1992)

quality of a water body, and the desirability of working, living, traveling, or owning property near that water body. Reducing storm water pollution will increase benefits as these water bodies recover and become more desirable.

2. **Enhanced Opportunities for Boating**: reducing sediment and other pollutants, and increasing water clarity, which enhances the boating experience for users, offer additional benefits.

3. **Enhanced Commercial Fishing**: Important because commercial fisheries are a significant part of the nation's economy, and 28% of the estuaries in the 305(b) Report were impacted by storm water/urban runoff.

4. **Enhanced Recreational and Subsistence Fishing**: Pollutants in storm water can eliminate or decrease the numbers, or size, of sport fish and shell fish in receiving waters.

5. **Reduced Flood Damage**: Storm water runoff controls may mitigate flood damage by addressing problems due to the diversion of runoff, insufficient storage capacity, and reduced channel capacity from sedimentation.

6. **Reduced Illness from Consuming Contaminated Fish**: Storm water controls may reduce the presence of pathogens in fish caught by recreational anglers.

7. **Reduced Illness from Swimming in Contaminated Water**: Epidemiological studies indicate that swimmers in water contaminated by storm water runoff are more likely to experience illness than those who swim farther away from a storm water outfall.

8. **Enhanced Opportunities for Non-contact Recreation**: Storm water controls reduce turbidity, odors, floating trash, and other pollutants, which then allow waters to be used as focal point for recreation, and enhance the experience of the users.

9. **Drinking Water Benefits**: Pollutants from storm water runoff, such as solids, toxic pollutants, and bacteria may pose additional costs for treatment, or render the water unusable for drinking.

10. **Water Storage Benefits**: Storm water is a major source of impairment for reservoirs. The heavy load of solids deposited by storm water runoff can

lead to rapid sedimentation of reservoirs and the loss of needed water storage capacity.[6]

III. STATUTORY AND REGULATORY HISTORY AND OTHER CONSIDERATIONS OF THE STORM WATER PROGRAM

A. Basis for Permit Conditions

Over the past 29 years, water pollution control efforts have focused primarily on certain process wastewater discharges from facilities such as factories and sewage treatment plants, with less emphasis on diffuse sources. The 1972 amendments to the federal Clean Water Act (CWA) prohibit the discharge of any pollutant to waters from a point source, unless a NPDES permit authorizes the discharge. Because the focus on reducing pollutants was centered on industrial and sewage treatment discharges, the U.S. Congress amended the CWA in 1987, requiring the U.S. EPA to create phased NPDES requirements for storm water discharges.

In response to the 1987 Amendments to the CWA, the U.S. EPA developed Phase I of the NPDES Storm Water Program in 1990. Phase I requires NPDES permits for storm water discharges from: (i) "medium" and "large" MS4s generally serving, or located in incorporated places or counties with, populations of 100,000 or more people; and (ii) eleven categories of industrial activity (including construction activity that disturbs five acres or greater of land).

Phase II, adopted in December 2000 and scheduled to take effect in March 2003, requires operators of small MS4s and small construction sites (construction activity disturbing between 1 and 5 acres of land) in urban areas to control storm water runoff discharges. Phase II establishes a cost-effective approach for reducing environmental harm caused by storm water discharges from previously unregulated diffuse sources.

B. Statutory Basis for Permit Conditions

The conditions established by this permit are based on Section 402(p)(3)(B) of the CWA which mandates that a permit for discharges from MS4s must:
(1) effectively prohibit the discharges of non-storm water to the MS4; and
(2) require controls to reduce pollutants in discharges from MS4 to the maximum extent practicable (MEP) including best management practices, control techniques, system design and engineering methods, and such other provisions determined to be appropriate. MS4s are not exempted from compliance with Water Quality Standards.
Section 301(b)(1)(C) of the CWA requiring that NPDES permits include limitations, including those necessary to meet water quality standards, applies.

[6] *Report to Congress on Phase II Storm Water Regulations*. U.S. EPA, Office of Water. EPA-833-R-99-001, Oct. 1999.

The intent of the permit conditions is to meet the statutory mandate of the CWA.

The permit requires the implementation of a comprehensive SWMP through a selection of BMPs [see 40 Code of Federal Regulations (CFR) 122.44(k)] as the mechanism to achieving the reduction of pollutants in storm water to the maximum extent practicable (MEP) [see CWA. § 402(p)(3)(B)(iii)].

C. Regulatory Basis for Permit Conditions

As a result of the statutory requirements of the CWA, the U.S. EPA promulgated the MS4 Permit application regulations set forth in 40 CFR 122.26(d). These federal regulations described in detail the permit application requirements for MS4s operators. The information in the Report of Waste Discharge was utilized to develop the permit conditions and determine the Permittees' status in relationship to these conditions.

D. Discharge Limitations

No numeric effluent limitations are proposed at this time. In accordance with 40 CFR 122.44(k), the U.S. EPA has required a series of increasingly more effective BMPs[7], in the form of a comprehensive SWMP and performance standards, in lieu of numeric limitations.[8]

E. Consistency with Other MS4 Permits

In February 2001, the San Diego Regional Water Quality Control Board adopted Waste Discharge Requirements Order No. 2001-01 for Discharges of Urban Runoff from the MS4s of San Diego County, Incorporated Cities of San Diego County, and the San Diego Unified Port District. In December 2001, the Los Angeles Regional Water Quality Control Board (LA Regional Board) adopted Waste Discharge Requirements Order No. 01-182 for Municipal Storm Water and Urban Runoff Discharges within Los Angeles County and incorporated cities therein.

We have incorporated portions of the San Diego and Los Angeles MS4 permits that are applicable to the Stockton MS4 permit. Those permits are available at www.swrcb.ca.gov/rwqcb9/Programs/Storm_Water/storm_water.html and www.swrcb.ca.gov/rwqcb4/html/programs/stormwater/la_ms4_final.html.

IV. BACKGROUND - CITY OF STOCKTON AND SAN JOAQUIN COUNTY MS4

A. City of Stockton and San Joaquin County MS4 Permit History

[7] *Interpretative Policy Memorandum on Reapplication Requirements* of MS4s issued by U.S. EPA (61 Fed. Reg. 41697)
[8] *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits* (61 Fed. Reg. 43761)

The City of Stockton (hereafter City) is defined as a medium municipality (population greater than 100,000 but less than 250,000) in the CFR. As such, the City must obtain an NPDES municipal storm water permit. The County of San Joaquin (hereafter County) contains urbanized areas and areas of potential growth, which are enclosed within the City limits or surround the City (see Attachment A). Under the CFR, the County is considered part of the medium municipal separate storm sewer system and is subject to the permit requirements.

The City and County (Permittees) are currently regulated by Waste Discharge Requirements Order No. 95-035 [National Pollutant Discharge Elimination System (NPDES) No. CA0083470], adopted on 24 February 1995.

B. **Storm Drain System**

The Permittees own and operate a municipal separate storm sewer system which collects storm water runoff and surface runoff generated from various land uses within the Permittees' jurisdictions. The outfalls drain to Bear Creek, Mosher Slough, Five Mile Slough, Fourteen Mile Slough, the Calaveras River, Smith Canal, the Deep Water Channel, Mormon Slough, Walker Slough, Duck Creek, Little Johns Creek, and the San Joaquin River. Respectively, the City and County have identified 87 and 48 major outfalls within their jurisdictions. The City has 400 miles of sewer lines. The County has not determined the length of its storm sewer system.

C. **Total Maximum Daily Loads (TMDLs)**

TMDLs are one of the Regional Board's highest priorities. In view of the Stockton Urbanized Area's urbanized environment, it is likely that pollutants in storm water will be allocated significant load reductions. While specific load reductions cannot be forecast at this time, the Regional Board does envision that storm water permits will be an important mechanism for implementing load reductions.

Under Section 303(d) of CWA, Five-Mile Slough (chlorpyrifos and diazinon), Mosher Slough (chlorpyrifos and diazinon), Stockton Deep Water Channel (dioxin, furans, and PCBs), and San Joaquin River (boron, chlorpyrifos, DDT, diazinon, electrical conductivity, Group A pesticides, selenium, and unknown toxicity) are listed as water quality impaired by the pollutants shown in parentheses.

The Regional Board's 28 September 2001 staff report entitled *Draft Staff Report on Recommended Changes to California's Clean Water Act Section 303(d) List* proposes to add several water bodies in the Stockton area to the existing 303(d)

list. These water bodies and the cause(s) of their impairment include Calaveras River – diazinon, dissolved oxygen (DO), and pathogens; Five-Mile Slough – DO and pathogens in addition to chlorpyrifos and diazinon; Mormon Slough – DO and pathogens; Mosher Slough – DO and pathogens in addition to chlorpyrifos and diazinon; Smith Canal Slough – DO, organophosphate pesticides, and pathogens; Stockton Deep Water Channel - pathogens in addition to dioxin, furans, and PCBs; and Walker Slough – diazinon and pathogens.

The proposed permit specifies that the Permittees amend the SWMP to comply with load allocations approved pursuant to adoption and approval of TMDLs. The addition of this provision represents a significant difference from the existing permit, which does not contain a provision for implementation of TMDLs. In addition, the proposed permit requires the Permittees to submit work plans to address the dissolved oxygen, pathogens, and pesticide impairment of the aforementioned water bodies resulting from storm water and urban discharges.

V. STORM WATER MANAGEMENT PROGRAM ELEMENTS

Federal regulations [40 CFR 122.26(d)(2)(iv)] provide that, "A proposed management program covers the duration of the permit. It shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program."

As part of their application for permit renewal, the Permittees have submitted a SWMP describing the framework for management of storm water discharges during the term of this permit. The SWMP provides the goals and objectives, legal authorities, source identification process, funding sources, best management practices (BMPs) evaluation and improvement process, and a monitoring plan. The SWMP includes the following major program components:

- Legal Authority
- Program Management
- Construction Program
- Industrial and Commercial Program
- Municipal Operations Program
- Illicit/Illegal Discharge Program
- Public Education and Outreach Program
- Monitoring Plan
- Fiscal Analysis
- Performance and Effectiveness Evaluation

- Water Quality Based Programs
- Development Standards

Some of these program elements and the corresponding proposed permit requirements under those elements are discussed below.

A. **Program Management**

The proposed permit requires submission of an Annual Work Plan by 1 April of each year. The Annual Work Plan provides the SWMP's and the Permittees' proposed activities for the upcoming year beginning 1 July of current year and ending 30 June the following year. The proposed permit also requires submission of an Annual Report by 1 September of each year. The Annual Report documents the status of the SWMP's and the Permittees' activities during the previous fiscal year, including the results of a qualitative and quantitative field level assessment of activities implemented by the Dischargers, and the performance of tasks contained in the SWMP. The Annual Report includes a compilation of deliverables and milestones completed during the previous 12-month period, as described in the SWMP and Annual Work Plan.

B. **Construction Program**

Legal Authority

Federal regulations [40 CFR 122.26(d)(2)(iv)(D)] provide that a proposed management program must include "a description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system."

Background

As stated in the *California Storm Water Best Management Practice Handbook for Construction Activity* (BMP Handbook), "Construction usually increases the amount of impervious area causing more of the rainfall to runoff, and increasing the speed at which runoff occurs. Unless properly managed, this increased runoff will erode natural and/or unprotected watercourses causing the watercourse to widen…Sedimentation can also contribute to accelerated filling of reservoirs, harbors, and drainage systems."[9]

Specific significant changes in the draft permit and justifications

NEW REQUIREMENT: The draft permit requires that Permittees promote the

[9] *California Storm Water Best Management Practice Handbook for Construction Activity*. 1993.

use of effective erosion and sediment controls at construction sites regardless of size.

JUSTIFICATION: The need for proper erosion and sediment controls is very apparent during and immediately after rain events. The environmental effects of erosion are well documented. Erosion can be prevented or reduced with the proper planning and implementation of appropriate BMPs.

NEW REQUIREMENT: Requirements for source control and treatment control BMPs for controlling runoff at construction sites.

JUSTIFICATION: Erosion occurs when land is exposed and sediments are mobilized. With adequately engineered and implemented structural or non-structural BMPs, the detrimental environmental effects can be eliminated or minimized. Currently, there are many guidance manuals, handbooks, and classes available to developers. Regional Board staff have provided and will continue to provide information on how to access these materials and training classes to the Permittees, developers, trade groups, and the Building Industry Association in Stockton.

NEW REQUIREMENT: Each Permittee shall require the preparation, submittal, and implementation of a Local SWPPP prior to issuance of a grading permit for construction projects that will result in soil disturbance of one acre or more in size.

JUSTIFICATION: This is to ensure that a site that is being graded, but is less than the required size threshold for a General Construction Activities Storm Water Permit (General Construction Permit) has oversight by the Permittees. U.S. EPA Phase II storm water regulations require that sites one acre or more are subject to the regulations.

NEW REQUIREMENT: Each Permittees shall implement a process to review, approve, and enforce any erosion control plan submitted to the Permittee for implementation at construction sites, regardless of size and General Construction Permit coverage of the sites. Local SWPPPs shall be required for projects of one acre or more in size.

JUSTIFICATION: The Permittees need to enforce local storm water ordinances at construction sites to prevent erosion. They should not wait for a discharge to react with an enforcement action.

NEW REQUIREMENT: For sites that require a construction storm water permit, Permittees are required to ensure that a Notice of Intent (NOI) has been filed with the State Board prior to issuing a grading permit. This requirement also applies to land transfers between developers on common plans of sale or development.

JUSTIFICATION: This is to ensure that a site must first obtain coverage under the General Construction Permit before a grading permit is issued.

NEW REQUIREMENT: Wet weather inspections are required of all construction sites one acre or greater. The Permittees need to conduct wet weather inspections to ensure compliance with local ordinances.

JUSTIFICATION: Inspecting all sites allows the Permittees to: (1) Ascertain compliance with their ordinance, this Order, and the General Construction Permit (for sites that are covered); (2) Focus on educating and issuing enforcement actions on problem sites; and (3) Refer problem sites to the Regional Board for further enforcement.

C. **Industrial and Commercial Program**

Legal Authority

Federal regulations [40 CFR 122.26(d)(2)(iv)(C)] require the following, "A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:

1. Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;

2. Describe a monitoring program for storm water discharges associated with industrial facilities […]"

Background

The municipality is ultimately responsible for discharges from the MS4. Because industrial awareness of the program may not be complete, there may be facilities within the MS4 area that should be permitted but are not (non-filers). The Phase I regulations requirement for industries to obtain permit coverage for storm water discharges is largely based on Standard Industrial Classification Code. This has been shown to be incomplete in identifying industries (which include commercial businesses) that may be significant sources of storm water pollution. In addition, the permitting authority may not have adequate resources to provide the necessary oversight of permitted facilities. Therefore, it is in the municipality's best interest

to assess the specific situation and implement an industrial/commercial inspection and enforcement program to control the contribution of pollutants to the MS4 from all these potential sources.

In the preamble to the 1990 regulations, the U.S. EPA clearly states the intended strategy for discharges of storm water associated with industrial activity:

"Municipal operators of large and medium municipal separate storm sewer systems are responsible for obtaining system-wide or area permits for their system's discharges. These permits are expected to require that controls be placed on storm water discharges associated with industrial activity which discharge through the municipal system." The U.S. EPA also notes in the preamble that *"municipalities will be required to meet the terms of their permits related to industrial dischargers*."

Similarly, in the U.S. EPA's Guidance Manual[10] (Chapter 3.0), it is specified that MS4 applicants must demonstrate that they possess adequate legal authority to:

- Control construction site and other industrial discharges to MS4s;
- Prohibit illicit discharges and control spills and dumping;
- Carry out inspection, surveillance, and monitoring procedures.[10]

The document goes on to explain that *"control"*, in this context means not only to require disclosure of information, but also to *limit, discourage, or terminate* a storm water discharge to the MS4. Further, to satisfy its permit conditions, a municipality may need to impose additional requirements on discharges from permitted industrial facilities, as well as discharges from industrial facilities and construction sites *not* required to obtain permits.

In the same Guidance Manual[11] (Chapter 6.3.3), it is stated that the municipality is ultimately responsible for discharges from their MS4. Consequently, the MS4 applicant must describe how the municipality will help the U.S. EPA and authorized NPDES States to:

- Identify priority industries discharging to their systems;
- Review and evaluate storm water pollution prevention plans (SWPPPs) and other procedures that industrial facilities must develop under general or individual permits;
- Establish and implement BMPs to reduce pollutants from these industrial facilities (or require industry to implement them); and
- Inspect and monitor industrial facilities discharging storm water to the

[10] *Guidance Manual For the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems* - U.S. EPA -November 1992
[11] *Id.*

municipal systems to ensure these facilities are in compliance with their NPDES storm water permit, if required.

Discussion

Recognizing that the municipality is ultimately responsible for the quality of storm water discharges from the MS4, the municipalities must evaluate the industrial/commercial facilities and determine their compliance with the permit requirements, as well as their contribution to the MS4 and potential impacts to the receiving waters. The following areas must be addressed in order to implement a meaningful industrial/commercial inspection and enforcement program:

- Source Identification
  - Identification of industrial/commercial sites discharging to the MS4 (by SIC codes and narrative if needed)
  - Characterization of activities, materials used, and potential for contributing pollutants along with the type of pollutants

- Pollution Prevention
  - Key concepts are many times overlooked: Prevent, before it happens, and be Pro-active rather than Reactive. It is more difficult to treat after the pollutant is released or mixed with storm water. BMPs and other site-specific controls are often most appropriate for reducing pollutants in storm water discharges from industrial and commercial facilities.

- Threat to Water Quality Prioritization
  - Identify impaired water bodies by pollutants and link with activities and industrial/commercial sites that may contribute those particular pollutants (or potentially contribute to) the water quality impairment

- Through existing ordinance, order, or similar means, the ability to:
  - enter premises;
  - conduct inspections;
  - review and evaluate SWPPPs and monitoring results;
  - require control methods (BMPs) implementation; and,
  - take appropriate enforcement actions, if necessary.

It may be necessary to update existing ordinances if they do not provide sufficient legal authority to implement the above mentioned components as required by the regulations.

Integration of NPDES Program for MS4 with NPDES Program for

Industrial Activities

Recognizing the dual coverage envisioned by the federal regulations[12], and suggested partnership between local and State authorities, this Order requires Permittees to coordinate with State activities for the implementation of the General Industrial Activities Storm Water Permit (General Industrial Permit). The goal is to control industrial sources and other sources not specifically covered under Phase I storm water regulations but identified as significant contributors of pollutants by the municipalities through their identification and prioritization studies. The net result should be a better and improved coordinated program with greater impact on limiting and eliminating (as a final goal) the contribution of pollutants to the receiving water while maintaining and/or restoring the capacity of the receiving water to sustain the beneficial uses without impairments.

Based on the dual coverage and partnership approach between the permitting authority and municipalities that the U.S. EPA envisioned in the storm water regulations[13,14], and in order to best use limited resources at the State and local levels, the draft permit includes improvements requiring the Permittees to: (i) Control the storm water discharges associated with industrial activities and other commercial facilities identified as significant contributors of pollutants; and (ii) Assist the Regional Board in implementing the general permit for industrial activities. This approach is consistent with the nationwide approach used by the U.S. EPA in issuing *second term* MS4 permits[15]. Also, this approach is consistent with other MS4 permits issued in California: San Diego, Santa Clara, and Los Angeles permits. The education and outreach should be continued under the auspices of the Public Education program.

The strategy as outlined in the draft permit builds on the State/municipalities partnership by focusing their limited resources on the following activities:

- The Permittees will take a lead role in inspecting restaurants, automotive service facilities, retail gasoline outlets, and industrial facilities mandated specifically by the federal regulations;

- The Regional Board will be the lead agency for inspections of facilities

[12] Federal Register Vol. 55, No 222, pp. 48000; U.S. EPA Storm Water Phase II Compliance Assistance Guide, 2000, pp. 4-32 and 5-11, where it clarifies the dual responsibility
[13] Letter dated December 19, 2000, from Alexis Strauss, Director, Water Division, U.S. EPA Region IX, to Dennis Dickerson, Executive Officer, Regional Water Quality Control Board-Los Angeles Region.
[14] Letter dated April 30, 2001, from Alexis Strauss, Director, Water Division, U.S. EPA Region IX, to Honorable Stephen Horn, U.S. House of Representatives
[15] MS4 NPDES Permits issued to Palm Beach County, Broward County, Sarasota County, Florida, Tulsa, Oklahoma, Denver, Colorado.

covered or in need of coverage under General Industrial Permit;

- The Permittees will assist the Regional Board in its activities to fully enforce the General Industrial Permit through spot check inspections, referrals, data information research, joint inspections;

- The Regional Board and Permittees will coordinate their information systems and task scheduling to avoid duplication and strengthen their inspections activities;

D. **Municipal Operations Program**

Federal regulations [40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5, and 6)] require that each Permittee must develop a program to reduce the discharge of pollutants to and from the MS4 to the maximum extent practicable for all urban land uses and activities, including municipal areas and activities.

Background

Many Permittees provide services that ultimately result in the enhancement of the lives of the residents. Some of these services include but are not limited to: sewage system operations; public construction activities; vehicle maintenance; material storage; street and road maintenance; landscaping; recreational facility management; parking facility management; public industrial activities; and many other activities.

Specific Significant Changes in the Draft Permit and Justifications

NEW REQUIREMENT: The proposed change requires that each Permittee be required to implement a response plan in case of an overflow of the sewage system to the storm drain system.

JUSTIFICATION: It is the Permittees responsibility to prevent sewage spills from getting into and discharging from their MS4s.

NEW REQUIREMENT: The requirements in the construction section of the draft permit also apply to the Permittees public construction sites.

JUSTIFICATION: A public construction site is subject to and must comply with storm water regulations, and should be a model of what to do efficiently and effectively.

NEW REQUIREMENT: Each Permittee with a construction site that meets the size requirements for a General Construction Permit shall obtain a permit from

the State for the construction activity. Currently the size threshold is five acres but will change to one acre on 10 March 2003.

JUSTIFICATION: This change is consistent with U.S. EPA Phase II storm water regulations, and will assist in the tracking of construction sites operated by Permittees.

NEW REQUIREMENT: Each Permittee will be required to ensure that public facilities are designed and constructed using construction and post-construction BMPs consistent with the Standard Urban Storm Water Mitigation Plans or Development Standards required under the Municipal Program of the draft permit.

JUSTIFICATION: This requirement ensures consistency with the planning, design, and construction requirements for public projects.

NEW REQUIREMENT: For Permittee owned or operated vehicle maintenance, material storage areas, and corporation yards, the Permittees will implement site specific SWPPPs to minimize pollutant discharges in storm water discharges. Vehicle and equipment wash areas will be required to be self contained or covered, equipped with a clarifier, or other pretreatment device, and or properly connected to the sanitary sewer. This requirement will take effect when a new facility is constructed or when an existing site is remodeled or reconstructed.

JUSTIFICATION: This provision ensures that the planning of public projects is treated the same as that of private projects.

NEW REQUIREMENT: For storm drain operation and maintenance, Permittees are now required to prioritize all catch basins and clean them out according to the permit requirements

JUSTIFICATION: Currently, the Permittees do not have an inspection and maintenance schedule.

NEW REQUIREMENT: Permittees are required to conduct a study to investigate the possible diversion of dry weather discharges or the use of alternate treatment control BMPs to treat storm water from their jurisdiction.

JUSTIFICATION: The Permittees must provide a priority list of dry weather discharges that could be diverted or treated for possible funding by grants, bonds, supplemental environmental projects, or other sources.

E. **Illicit Connection/Illegal Discharge Program**

Federal regulations [40 CFR 122.26(d)(2)(iv)(B)] state that a proposed management program shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer. It states further that a Permittee must include in its proposed management program a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal storm sewer system.

Background

During dry weather, much of the discharge to storm drain systems consists of wastes and wastewater from non-storm water sources. A significant amount of such discharges may be from illicit discharges or connections, or both. Illicit discharges may occur either through direct connections, such as deliberate or mistaken piping, or through indirect connections, such as dumping, spillage, subsurface infiltration, and washdown.

The objective of a municipality's illicit connection/illicit discharge elimination program should be to detect illicit connections and illicit discharges to the storm drain system, and to promptly eliminate such discharges and connections. Municipalities typically employ the approaches listed below to achieve this objective:

- Permitting connections to the municipal storm drain;
- Mapping the storm drain system, locations of catch basins, outfalls, permitted connections, and the names and locations of all waters of the U.S. that receive discharges from the outfalls;
- Adopting a storm water/ urban runoff ordinance to prohibit unauthorized non-storm water discharges into the MS4, and implementing appropriate enforcement procedures and actions;
- Implementing a program to detect and eliminate non-storm water discharges to the MS4, including illegal dumping;
- Educating public employees, businesses, and the general public about the dangers associated with illegal discharges and improper disposal;
- Establishing a public reporting hotline or other mechanism to report illicit discharges and illegal dumping; and

- Establishing measurable goals to evaluate successful program implementation.

Proposed Illicit Connection/Illicit Discharge (IC/ID) Elimination Program

The proposed permit requires the Permittees to revise their IC/ID Elimination Program in the SQMP to meet the following proposed requirements in the draft permit:

- General requirements, among which include a development (if necessary) and updating of a list of permitted connections to the storm drain system, a tracking system for illicit connections and discharges, and compilation, coordination of this information by the Principal Permittee, as well as identification of priority areas for proactive screening.

- Illicit connection requirements:

    - Proactive screening of the storm drain system over a 5-year period, including: field screening of open channels and underground pipes (with a diameter of 36 inches or greater);

    - Permit screening, to ensure that all connections are effectively implementing the prohibition on non-storm water discharges. Requirements to investigate and terminate illicit connections, including response times.

- Illicit discharge requirements, specifying response times for abatement and cleanup (within one business day), and investigation (as soon as practicable).

F. **Public Outreach Public Education Program (Collectively Public Outreach Program)**

Federal regulations [40 CFR 122.26(d)(2)(iv)(A)(6)] provide that the proposed management program include, "A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewer system associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators

and distributors, and controls for application in public right-of-ways and at municipal facilities." These regulations [40 CFR 122.26(d)(2)(iv)(B)(6)] also provide that the proposed management program include, "A description of education activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials."

To satisfy the Public Outreach Program, the Permittees need to: (i) Implement a public education program to distribute educational materials to the community, or conduct equivalent outreach activities about the impacts of storm water discharges on local waterbodies and the steps that can be taken to reduce storm water pollution; and (ii) Determine the appropriate BMPs and measurable goals for this minimum control measure.

Background

Implementation of a Public Outreach Program is a critical BMP and a necessary component of a storm water management program. The State Board Technical Advisory Committee "recognizes that education with an emphasis on pollution prevention is the fundamental basis for solving nonpoint source pollution problems." The U.S. EPA Phase II Fact Sheet 2.3 finds that "An informed and knowledgeable community is critical to the success of a storm water management program since it helps insure the following: (i) greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, and (ii) greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters."[16]

Furthermore, the public can provide valuable input and assistance to a municipal storm water management program and should play an active role in the development and implementation of the program. An active and involved community is essential to the success of a storm water management program because it allows for:

- Broader public support since residents who participate in the development and decision making process are partially responsible for the program and are more likely to take an active role in its implementation;

[16] *Storm Water Phase II Final Rule - Public Education and Outreach Minimum Control Measure*. U.S. EPA Fact Sheet 2.3, January 2000.

- Shorter implementation schedules due to fewer obstacles in the form of public and legal challenges and increased sources in the form of residents volunteers;

- A broader base of expertise and economic benefits since the community can be a valuable, and free, intellectual resource; and

- A conduit to other programs as residents involved in the storm water program development process make important cross-connections and relationships with other community and government programs. This benefit is particularly valuable when trying to implement a storm water program on a watershed basis, which is encouraged by the U.S. EPA.

Discussion of New Requirements

Based on the background information, the Permittees should continue their educational storm water and urban runoff outreach programs. According to the U.S. EPA, materials and activities should be relevant to local situations and issues, and incorporate a variety of strategies to ensure maximum coverage.[17] To help address local situations and sources of specific pollutants, the Public Outreach Program requires specific programs for targeted communities, for example, ethnic groups, retail gasoline outlets (RGOs), and restaurants, that may not be reached by or understand existing storm water educational materials. In an effort to reach these groups the Public Outreach Program must requires the development of a strategy to provide outreach information including bilingual materials to target ethnic communities. The U.S. EPA encourages partnerships and cooperation.[18] The proposed permit requires coordination between the Permittees and other MS4 permittees. This requirement will ensure that the Permittees are apprised of the most efficient and effective program. It is generally more cost-effective to have numerous operators coordinate to use an existing program than all developing their own local programs. Furthermore, directing materials or outreach programs toward specific groups of commercial, industrial, and institutional entities likely to have significant storm water impacts is recommended.[19] The next step in this targeted outreach program is education of specific businesses to facilitate employee compliance. Therefore, the permit requires implementation of a business outreach program to educate management and employees at gas stations and restaurant chains about storm water regulations.[20] Also, a non-regulatory business assistance program would encourage small businesses that lack access to the expertise necessary to comply with storm water regulations and to implement pollution prevention measures.

[17] Phase II Fact Sheet 2.3
[18] *Id.*
[19] Phase II Fact Sheet 2.3
[20] Order No. R5-2002-XXX

The business assistance program is not a requirement, however, its implementation is encouraged.

Program Performance Measures

The current public information program does not include a protocol to measure the effectiveness of the different public outreach and public education efforts. Therefore, the draft permit includes requirements to measure the outcome of outreach and education efforts, and demonstrate that they are effective at increasing knowledge and changing the behavior of the public in regards to storm water pollution. The proposed permit includes requirements for the Permittees to develop a strategy for measuring the effectiveness of different educational programs and to develop a behavioral change target that will become a performance measure that must be reported in Annual Reports. In addition, the Permittees are also required to: (a) ensure that a minimum number of impressions per year are made on the general public about storm water via print, local TV access, local radio, or other appropriate media; and (b) provide all school districts within their jurisdiction with materials, including videos, live presentations, brochures, and other media necessary to educate a minimum of fifty percent of all school children (K-12) every two years on storm water pollution. These performance measures are justified based on their consistency with requirements in the City of Los Angeles, City of Long Beach, and Ventura County MS4 permits.

The proposed permit requires the Permittees to ensure a minimum of 800,000 impressions on the residents of the Stockton Urbanized Area. This requirement is consistent with the number of impressions (3 - 3.5 per resident) required in the Los Angeles, Long Beach, and the Ventura County MS4 permits.

G. Water Quality-Based Programs

Clean Water Act Section 303(d) and 40 CFR 130.7 require states to identify water quality-impaired water bodies and pollutants of concern, and develop TMDLs. A TMDL is a quantitative assessment of the total pollutant load that can be discharged from all sources each day while still meeting water quality objectives. The Regional Board is currently in the process of developing TMDLs for listed water bodies within the Region. Once the Regional Board and U.S. EPA approve TMDLs, the Permittees' discharge of storm water into an impaired water body will be subject to load allocations and implementation plans established under the TMDLs. Certain early actions and/or assessments by the Permittees to address 303(d) listed water bodies and constituents are warranted and required by this

Order.

Five-Mile Slough, Mosher Slough, Stockton Deep Water Channel, and the San Joaquin River are listed as impaired water bodies pursuant to Section 303(d) of the CWA. Five-Mile Slough (chlorpyrifos and diazinon), Mosher Slough (chlorpyrifos and diazinon), Stockton Deep Water Channel (dioxin, furans, and PCBs), and San Joaquin River (boron, chlorpyrifos, DDT, diazinon, electrical conductivity, Group A pesticides, selenium, and unknown toxicity) are listed as water quality impaired by the pollutants shown in parentheses.

The Regional Board's 28 September 2001 staff report entitled *Draft Staff Report on Recommended Changes to California's Clean Water Act Section 303(d) List* proposes to add several water bodies in the Stockton area to the 303(d) list. These water bodies and the cause(s) of their impairment include Calaveras River – diazinon, dissolved oxygen (DO), and pathogens; Five-Mile Slough – DO and pathogens in addition to chlorpyrifos and diazinon; Mormon Slough – DO and pathogens; Mosher Slough – DO and pathogens in addition to chlorpyrifos and diazinon; Smith Canal Slough – DO, organophosphate pesticides, and pathogens; Stockton Deep Water Channel - pathogens in addition to dioxin, furans, and PCBs; and Walker Slough – diazinon and pathogens.

To address these water quality impairments, the proposed permit requires the Permittees to conduct studies to determine the sources of impairment of those water bodies. Specifically, the Permittees must submit work plans for Smith Canal, DO, pathogens, and pesticides investigations in those water bodies.

H. Development Standards

Impacts from New Development

Treatment control BMP requirements on new development and redevelopment offer the most cost-effective strategy to reduce pollutant loads to surface waters. Retrofit of existing development will be expensive and may be considered on a targeted basis. Studies on the economic impacts of watershed protection indicate that storm water quality management has a positive or at least neutral economic effect while greatly improving the quality of surface waters.[21]

[21] *The Economics of Watershed Protection*, T. Schueler (1999), Center for Watershed Protection, Endicott, MD. The article summarizes nationwide studies to support the statement that watershed planning and storm water management provides positive economic benefits.

Federal regulations (40 CFR 122.26) require that pollutants in storm water be reduced to MEP. The U.S. EPA's definition is intentionally broad to provide maximum flexibility in MS4 permitting and to give municipalities the opportunity to optimize pollutant reductions on a program-to-program basis.[22] The definition of MEP has generally been applied to mean implementation of economically achievable management practices. Because storm water runoff rates can vary from storm to storm, the statistical probabilities of rainfall or runoff events become economically significant and are central to the control of pollutants through cost effective BMPs. Further, it is recommended that storm water BMPs be designed to manage both flows and water quality for best performance.[23] It is equally important that treatment BMPs once implemented be routinely maintained.

Financing the MS4 program offers a considerable challenge for municipalities. A proven successful financing mechanism is the establishment of a storm water utility.[24] Utility fees, which are assessed on the property owner based on some estimate of storm water runoff generated for the site, are a predictable and dedicated source of funds. Utility fees can also provide a mechanism to provide incentives to commercial and industrial property owners to reduce impervious surface areas. Such incentives offer flexibility to property owners to choose the better economic option – paying more fees or making improvements to reduce runoff from the site.

Review of Design Standards

The American Society of Civil Engineers (ASCE) and the Water Environment Federation (WEF) have recommended a numerical BMP design standard for storm water that is derived from a mathematical equation to maximize treatment of runoff volume for water quality based on rainfall/ runoff statistics and which is economically sound.[25] The maximized treatment volume is cut-off at the point of diminishing returns for rainfall/ runoff frequency. On the basis of this equation the maximized runoff volume for eighty-five percent treatment of annual runoff volumes in California can range from 0.08 to 0.86 inch depending on the

[22] *Storm Water Phase II Final Rule* – Pre-Federal Register Version, p 87 (U.S. EPA 1999). See U.S. EPA's discussion in response to challenges that the definition is sufficiently vague to be deemed adequate notice for purposes of compliance with the regulation.
[23] *Urban Runoff Pollution – Summary Thoughts* – The State of Practice Today and For the 21st Century. Wat. Sci. Tech. 39(2) pp. 353-360. L.A. Roesner (1999)
[24] *Preliminary Data Summary of Urban Storm Water Best Management Practices* (1999), Report No. U.S. EPA-821-R-99-012, U.S. EPA. The document reviews municipal financing mechanisms and summarizes experience in the U.S. to date.
[25] *In Urban Runoff Quality Management, WEF Manual of Practice No. 23, ASCE Manual and Report on Engineering Practice No. 87.* WEF, Alexandria, VA; ASCE, Reston, VA. 259 pp. (1998).

imperviousness of the watershed area and the mean rainfall.[26]

Other methods of establishing numerical BMP design standards include: (i) Percent treatment of the annual runoff; (ii) Full treatment of runoff from rainfall event equal to or less than a predetermined size; (iii) Percent reduction in runoff based on a rainfall event of standard size.[27] These numerical design standards have been applied to Development Planning in Puget Sound, WA; Alexandria, VA; Montgomery County, MD; Denver, CO; Orlando, FL; Portland, OR; and Austin, TX.

The City of Seattle requires that where new development coverage is 750 square feet or more, storm water detention be provided based on a 25 year storm return frequency, and a peak discharge rate not to exceed 0.2 cubic feet per second.[28] Additionally, for projects that add more than 9,000 square feet in developmental coverage, the peak drainage water discharge rate is limited to 0.15 cubic feet per second per acre for a two-year storm. The City of Denver requires new residential, commercial, and industrial developments to capture and treat the 80th percentile runoff event. This capture and proper treatment is estimated to remove 80 to 90 percent of the annual total suspended solids (TSS) load which is a surrogate measure for heavy metal and petroleum hydrocarbon pollutants.[29]

Some States have established numerical standards for sizing storm water post-construction BMPs for new development and significant redevelopment. The State of Maryland has established storm water numerical criteria for water quality of 0.9 to 1 inch, and BMP design standards in a unified approach combining water quality, stream erosion potential reduction, groundwater recharge, and flood control objectives.[30] The State of Florida has used numerical criteria to require treatment of storm water from new development since 1982, including BMPs sized for 80 percent reduction (95 percent for impaired waters) in annual TSS loads derived from the 90 percent (or greater for impaired waters) annual runoff treatment volume method for water quality.[31] The State of Washington has proposed at least six different approaches of establishing storm water numerical mitigation criteria for new development, which add 10,000 square feet of impervious surface or more for residential development, and 5,000 square feet of

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[26] *Sizing and Design Criteria for Storm Water Treatment Controls, Presentation to California Storm Water Quality Task Force*, November 13, 1998, Sacramento, CA. L.A. Roesner, Camp Dresser McKee.
[27] *Sizing and Design Criteria for Storm water Quality Infrastructure, Presentation at California Regional Water Quality Control Board Workshop on Standard Urban Storm Water Mitigation Plans*, August 10, 1999, Alhambra, CA., R.A. Brashear, Camp Dresser McKee.
[28] *City of Seattle Municipal Code, Chapter 22.802.015* – Storm water, drainage and erosion control requirements.
[29] *Urban Storm Drainage, Criteria Manual – Volume 3, Best Management Practices, Urban Drainage and Flood Control District, Denver*, CO (1999). Manual provides detail design criteria for new development for the Denver Metropolitan area.
[30] *Maryland Storm Water Design Manual* - (Maryland Department of the Environment 2000).
[31] *Florida Development Manual: A Guide to Sound Land and Water Management* (Florida Department of Environmental Protection 19xx). The manual describes structural and non-structural construction and post construction BMPs design criteria.

impervious surface or more for other types of development.[32] Other mitigation criteria options include the 90th percentile 24-hour rainfall event (used by the State of Maryland) and the six month 24 hour rainfall event (used by the State of Washington).

On a national level, the U.S. EPA is planning to standardize minimum BMP design and performance criteria for post-construction BMPs, and will likely build from the experience of effective state and local programs to establish national criteria.[33] The U.S. EPA, based on the NURP, supports the first half-inch of rainfall as generating first flush runoff.[34] First flush runoff is associated with the highest pollutant concentrations, and not pollutant load. The U.S. EPA considers the first flush treatment method, the rainfall volume method, and the runoff capture volume method as common approaches for sizing of water quality BMPs.

On 5 October 2000, the State Board adopted Order WQ 2000-11[35] concerning the use of Standard Urban Storm Water Mitigation Plans (SUSMPs) in municipal storm water permits for new developments and significant redevelopments by the private sector. The precedent setting decision largely sustained the LA Regional Board SUSMPs. The State Board amended the SUSMP to limit its application to discretionary projects as defined by CEQA, eliminated the category for projects in environmentally sensitive areas, and set aside the requirement for retail gasoline outlets to treat storm water until a threshold is developed in the future. In addition, the State Board articulated its support for regional solutions and the mitigation banking. The State Board recognized that the decision includes significant legal or policy determinations that are likely to recur (Gov. Code §11425.60). Due to the precedent setting nature of Order WQ 2000-11, the proposed permit must be consistent with applicable portions of the State Board's decision and include SUSMPs which the proposed permit refers to as Development Standards. More detailed information is available at the LA Regional Board's website: www.swrcb.ca.gov/rwqcb4/html/programs/stormwater/la_ms4_final.html.

VI. MONITORING PROGRAM

Federal regulations [(40 CFR 122.26(d)] require the following: (1) quantitative data from representative outfalls designated by the permitting authority, which shall designate

[32] *Storm Water Management in Washington State Volumes 1 – 5*. Public Review Draft (Washington Department of Ecology 1999). Volumes 1,3, and 5 are most relevant to new development standards and cover Hydrologic and Flow Control Designs, Minimum Technical Requirements and Treatment BMPs. The volumes will be adopted as statewide standards in early 2000 after completion of public hearings according to the agency.
[33] *Storm Water Phase II Final Rule* – 64 Fed. Reg. 68759. See U.S. EPA's discussion on construction and post-construction BMP requirements for Phase II.
[34] *A Watershed Approach to Urban Runoff: Handbook for Decisionmakers*, Terrene Institute and U.S. EPA Region 5 (1996). See discussion on sizing rules for water quality purposes, p 36.
[35] *State Water Board Order WQ 2000-11*: SUSMP; Memorandum from Chief Counsel to Regional Board Executive Officers, (December 26, 2000) discusses statewide policy implications of the decision.

between five and ten outfalls or field screening points as representative of the commercial, residential, and industrial land use activities of the drainage area contributing to the MS4; (2) estimates of the annual pollutant load of the cumulative discharges to waters of the United States from all identified municipal outfalls and the event mean concentration of the cumulative discharges for constituents of concern; (3) estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of SWMP implementation; and (4) the Permittees to submit an annual report that identifies, among other things, water quality improvements or degradation. Items 1-3 are required as Part 2 of the initial application. However, since they are needed to evaluate the SWMP, they are being incorporated into this Order.

A. **Urban Discharge Monitoring**

Since 1992, the Permittees have been monitoring five drainage basins, shown in Attachment A. Three of these basins are from residential areas. Two of these residential basins, MS-14 and MS-18, are in the same general vicinity and both discharge to Mosher Slough. Due to the similarity of monitoring data from these two residential basins and the fact that they both discharge to the same receiving water, this monitoring program requires monitoring of MS-14 only along Mosher Slough. Samples shall be taken at the following stations: MS-14 (Residential) – Kelley Drive at Mosher Slough; CR-45 (Residential) – Sutter Creek at Calaveras River; CR-46 (Commercial) – West Lane at Calaveras River; and DC-65 (Industrial) – Western Pacific Industrial Park at Duck Creek. Attachment A shows the approximate locations of the urban discharge sampling stations. If additional sample station locations are needed, they shall be established under the direction of Board staff, and a description of the stations shall be attached to this MRP. Urban discharge monitoring shall be consistent with the frequency and schedule shown on Table 1. Sample collection and analysis shall follow standard U.S. EPA protocol. Each year, samples shall be collected **during two storm events** and **two during the dry season**.

B. **Receiving Water Monitoring**

All receiving water samples shall be grab samples, collected at mid-depth, in mid-stream of the receiving water. Receiving water sampling may be postponed or eliminated if hazardous weather and/or river flow conditions prevent safe access to sampling location. Receiving water monitoring shall be taken after discharges from MS-14, CR-45, CR-46, and DC-65 have occurred and shall be consistent with the frequency and schedule shown on Table 1. Attachment A shows the approximate locations of the receiving water sampling stations. Sample collection

and analysis shall follow standard U.S. Environmental Protection Agency (US EPA) protocol. Each year, samples shall be collected **during two storm events** and **two during the dry season**.

C. **Retention Basin Monitoring**

The Discharger shall submit by **1 April 2003** a work plan to perform influent, effluent, and sediment chemistry monitoring of their detention basins. Monitoring shall be conducted during the second and fourth years of the permit. Monitoring shall be designed to evaluate the effectiveness of the detention basins in removing pollutants.

D. **Method Detection Monitoring**

The Minimum Levels (MLs) listed in Appendix 4 of the State Board Policy for Implementation of Toxics Standards for Inland Surface Water, Enclosed Bays, and Estuaries of California, 2000 (SIP) represent the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interferences.[36] These MLs must be incorporated into all water quality monitoring programs to detect priority toxic pollutants. The MLs are the only established criteria that take into consideration recent improvements in chemical analytical methods. If they are not used in the storm water program, concentrations of concern of priority toxic pollutants may not be detected. Detection and control of toxic pollutants in surface waters is necessary to achieve the CWA's goals and objectives.[37] Numeric criteria for toxic pollutants are necessary to evaluate the adequacy of existing and potential control measures to protect aquatic ecosystems and human health.[38] Also, using MLs will provide quantifiable data that is necessary to better assess water quality and to develop Waste Load Allocations and Load Allocations for TMDLs. Furthermore, non-detects cannot be used to accurately determine mass loadings. The criteria established in the CTR are legally applicable in the State of California for inland surface waters, enclosed bays and estuaries for all purposes and programs under the CWA.[39] Section 402(p)(3)(B)(iii) gives U.S. EPA and states the authority to incorporate appropriate water quality-based effluent limitations in NPDES permits for discharges from MS4s.[40]

E. **Total Suspended Solids Monitoring**

The NPDES Sampling Guidance Document (EPA 833-8-92-001, July 1992)

[36] SIP
[37] 65 Fed. Reg. 31683
[38] *Id.*
[39] 65 Fed. Reg. 31682
[40] 65 Fed. Reg. 31703

establish specific criteria for the type of storm event that must be sampled: (1) The depth of the storm must be greater than 0.1 inch accumulation; (2) The storm must be preceded by at least 72 hours of dry weather; and (3) Where feasible, the depth of rain and duration of the event should not vary by more than 50 percent from the average depth and duration. These criteria were established to: (1) Ensure that adequate flow would be discharged; (2) Allow some build-up of pollutants during the dry weather intervals; and (3) Ensure that the storm would be "representative," (i.e., typical for the area in terms of intensity, depth, and duration).

The average rainfall from October 1996 to January 2002 in the Stockton Urbanized Area (discarding the rainfall events during the El Nino season in 1997/1998) is 0.43 inch [41] with a standard deviation of 0.34 inch.

Based on the above criteria and data, this Order requires the Permittees to sample every storm greater than 0.4 inch for TSS. The purpose of this requirement is to account for the high variability of storm water discharges and determine more accurate average pollutant loading values. The high variability of storm water makes it unlikely to characterize a storm season based on a few samples. Studies show that the median event mean concentration for storm water programs that do not sample every storm is consistently biased low, relative to the annual flow-weighted mean[42]. Studies have indicated that runoff contaminants tend to be highly correlated with suspended solids in large rivers and creeks throughout southern California[43]. TSS measurements are one-tenth the cost of trace metal analyses. However, TSS concentrations accounted for up to 95% of the variability in some trace metal concentrations in a study of the Santa Ana River (urbanized watershed in Orange County) conducted by the Southern California Coastal Water Research Project (SCCWRP). To adequately characterize a storm and capture central tendencies, many storms would need to be sampled. However, this is cost-prohibitive. Therefore, the correlation between TSS and trace metals and petroleum hydrocarbons should be used.

F. **Water Column Toxicity Monitoring**

Studies conducted by Regional Board staff and DeltaKeeper from 1994 to 2001 found toxicity in Calaveras River, Duck Creek, Five-Mile Slough, Mosher Slough, and the Smith Canal. Therefore, toxicity monitoring is required by this Order.[44]

Toxicity testing is used to assess the impact of storm water pollutants on the

[41] California Department of Water Resources, California Data Exchange Center website: http://cdec.water.ca.gov/cgi-progs/queryDaily?SFS
[42] Temporal variability patterns of stormwater concentrations in urban stormwater runoff. Leisl L. Tiefenthaler, Kenneth C. Schiff, and Molly Leecaster, Southern California Coastal Water Research Project (SCCWRP) annual Report 2000.
[43] SCCWRP. 1992. Surface runoff to the Southern California Bight.
[44] Review of the City of Stockton Urban Stormwater Runoff, Aquatic Life Toxicity Studies Conducted by the CVRWQCB, DeltaKeeper and the University of California, Davis, Aquatic Toxicology Laboratory, between 1994 and 2000. G. Fred Lee, PhD, DEE and Anne Jones-Lee, PhD.

overall quality of aquatic systems[45]. It can be a very useful tool for storm water managers. The Center for Watershed Protection rated toxicity testing as a "very useful" indicator for assessing municipal storm water programs. Toxicity testing can also be used to evaluate the effectiveness of storm water BMPs and other storm water pollution reduction measures[46]. Managers can use the results of toxicity testing to identify areas of high concern and to establish priority locations for BMPs. Furthermore, Toxicity Identification Evaluations (TIEs) and Toxicity Reduction Evaluations (TREs) can be used to identify specific pollutants and their sources so that management actions can be more specifically prioritized.

Toxicity testing using multiple species is needed to provide a complete assessment of the causes of toxicity in storm water[47]. Reliance on single species tests may not provide an accurate assessment of toxicity[48]. Because different species vary in their sensitivity to contaminants, tests with multiple species are needed to determine if other contaminants are present at toxic concentrations[49]. Specifically, an organism that is sensitive to pesticides, which have been found to be important factors in the toxicity of storm water from other watersheds, should be used[50]. U.S. EPA recommends the use of the *Ceriodaphnia dubia* (water flea) reproduction and survival test for the measurement of receiving water toxicity. The water flea is one of the aquatic species most sensitive to diazinon, whereas the sea urchin fertilization test is insensitive to organophosphorus pesticides[51]. By contrast, sea urchin sperm are approximately 10 times more sensitive to trace metals than are water fleas.

Furthermore, the toxicity component of the Monitoring Program should include toxicity identification procedures so that potential constituents of concern can be confirmed and others can be discounted. TIEs are needed to prioritize management actions.
Two wet weather and two dry weather samples will be analyzed for toxicity from each sampling station every year. When a sample is substantially toxic to either test species, a Phase I TIE will begin immediately. Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE. For example, Ceriodaphnia TIEs require at least 50% mortality in undiluted sample at any time during the 7-day duration of the initial chronic bioassay.[52] If enough toxicity is not present at the beginning of a TIE, it cannot be successfully completed.

Due to the high variability of storm water, there is no guarantee that substantial toxicity will be present after the two consecutive hits. To increase the chances of

[45] Center for Watershed Protection, Environmental Indicators to Assess Stormwater Control Programs and Practices (1996).
[46] Ibid.
[47] Bay, Jones, Schiff. Study of the Impact of Stormwater Discharge on Santa Monica Bay (1999).
[48] Center for Watershed Protection
[49] Bay, et al.
[50] Bay, et al.
[51] Kinnetic Laboratories, inc., City of Long Beach Storm Water Monitoring Report (2000-2001).
[52] SCCWRP

a successful TIE and to better identify all causes of toxicity in storm water, TIEs should begin immediately when substantial toxicity is detected in a sample.

Furthermore, after a toxic pollutant or class of pollutants is identified as causing at least 50% of the toxic responses in at least 3 samples at a sampling location, Toxicity Reduction Evaluations (TRE) will be conducted. If a Phase I TIE only identifies a broad category of toxicants (i.e., nonpolar organics), additional TIE analysis, to the extent possible, will be conducted until the source of toxicity is identified.

Overall, the toxicity monitoring program will assess the impact of storm water on the overall quality of aquatic systems and implement measures to ensure that those impacts are eliminated or reduced. Chemical monitoring does not necessarily reveal the impacts of storm water on aquatic life or beneficial uses of water bodies. Therefore, toxicity monitoring is a necessary component of a storm water monitoring program.

G. **Tributary/Source Identification Monitoring**

Based on the results of storm water quality monitoring and toxicity testing in the Calaveras River, Five-Mile Slough, Mormon Slough, Mosher Slough, Smith Canal Slough, Stockton Deep Water Channel, and Walker Slough, there is a need to monitor sub-watersheds to determine pollutant sources and prioritize management actions.

H. **Bioassessment**

Bioassessment data can be an important indicator of stream health and storm water impacts. It can detect impacts that chemical and physical monitoring cannot. In the Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems, U.S. EPA encourages permitting authorities to consider requiring biological monitoring methods to fully characterize the nature and extent of storm water problems. Therefore, this Regional Board and other Regional Boards commonly require bioassessment monitoring in storm water and point source NPDES permits.

However, the fact that a biological index does not yet exist for this region is an issue that Regional Board staff took into consideration for this requirement. Without a biological index, including reference conditions and knowledge of background variability, data cannot be fully analyzed to accurately indicate stream health or impacts. However, it can be used to determine trends in the biological community, and it is necessary for index development. Also, bioassessment data can be analyzed in the future, after an index is developed.

VII. ADDITIONAL REQUIREMENTS

A. Peak Discharge Impact Study

The proposed permit requires that the Permittees determine numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by urbanization. The purpose of the Peak Discharge Impact Study is to help meet that requirement. The Los Angeles and Ventura County MS4 permits contain a similar requirement.

B. BMP Effectiveness Study

The BMP Effectiveness Study is an integral part of the storm water monitoring program. It is necessary to document the effectiveness of treatment control BMPs so that the storm water management agency can make informed decisions on the use of BMPs.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2002-XXX

NPDES NO. CA0083470

WASTE DISCHARGE REQUIREMENTS

CITY OF STOCKTON
AND
COUNTY OF SAN JOAQUIN
STORM WATER DISCHARGES FROM
MUNICIPAL SEPARATE STORM SEWER SYSTEM
SAN JOAQUIN COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Board) finds that:

1. The City of Stockton and the County of San Joaquin's Community Service Area 54, hereafter jointly referred to as Permittees, submitted a completed Report of Waste Discharge (RWD) on 4 August 1999, requesting reissuance of waste discharge requirements under the National Pollutant Discharge Elimination System (NPDES) area-wide municipal separate storm sewer system (MS4) permit to discharge storm water runoff from storm drains within their jurisdictions and to implement a Storm Water Management Program (SWMP).

2. Prior to issuance of this Order, the Permittees were covered under the NPDES area-wide MS4 permit, Order No. 95-035 (NPDES No. CA0082597), adopted on 24 February 1995.

3. The City of Stockton (hereafter City) is defined as a medium municipality (population greater than 100,000 but less than 250,000) in the Code of Federal Regulations (CFR) 40 CFR 122.26 (b)(7). As such, the City must obtain an NPDES municipal storm water permit.

4. The County of San Joaquin (hereafter County) contains urbanized areas and areas of potential growth, which are enclosed within the limits of the City or surround the City. The urbanized areas of the County which are enclosed within the City, the urbanized areas which surround the City, and the City of Stockton are hereafter referred to as the **Stockton Urbanized Area** and subject to the permit requirements. Due to the proximity of the County's urbanized areas to the City, their physical interconnections to the City's storm sewer system, and the locations of their discharges relative to the City's system, the County is designated as part of the medium MS4 in accordance with 40 CFR 122.26(b)(7)(iii). Attachment A shows the Stockton Urbanized Area.

5. The Permittees have jurisdiction over and/or maintenance responsibilities for storm drains in the Stockton Urbanized Area. The discharge consists of surface runoff generated from various land uses that discharge into storm drains, which in turn discharge to natural drainage watersheds. The major natural drainage watersheds in the Stockton Urbanized Area are Bear Creek, Mosher Slough, Five Mile Slough, Fourteen Mile Slough, the Calaveras River, Smith Canal, the Deep Water Channel, Mormon Slough, Walker Slough, Duck Creek, and Little Johns Creek. Smith Canal and Five Mile Slough receive storm water runoff only from the Stockton Urbanized Area. In addition to storm water runoff from the Stockton Urbanized Area, Calaveras River, Mosher Slough, and Walker Slough also at times receive stormwater runoff from agricultural areas and agricultural return (tailwater) upstream of the Stockton Urbanized Area. All of these water bodies discharge to the Sacramento-San Joaquin River Delta and are tidal freshwater within the Stockton Urbanized Area with a one- to three-foot tide. In most areas of the Stockton Urbanized Area, dry weather flow and stormwater runoff are pumped to sloughs/rivers. These drain westerly into the San Joaquin River, which runs along the western side of the Stockton Urbanized Area. The quality and quantity of these discharges vary considerably and are affected by hydrology, geology, land use, season, and sequence and duration of hydrologic events.

6. The Permittees' land use authority allows urban developments that may generate pollutants and runoff that could impair receiving water quality and beneficial uses. Therefore, the Permittees are responsible for considering potential storm water impacts when making planning decisions in order to fulfill the Clean Water Act (CWA) requirement to reduce the discharge of pollutants in municipal storm water to the maximum extent practicable (MEP) from new development and redevelopment activities. In addition, the Permittees must exercise their legal authority to ensure that the increased pollutant loads and flows do not affect the beneficial uses of the receiving water. However, the Permittees retain authority to make the final land-use decisions and retain full statutory authority for deciding what land uses are appropriate at specific locations within each Permittee's jurisdiction. This Order and its requirements are not intended to restrict or control local land use decision-making authority.

7. This Order is not intended to prohibit the inspection for or abatement of vectors by the State Department of Health Services or local vector agencies in accordance with California Health and Safety Code § 2270 *et seq*. and §116110 *et seq*. Certain Treatment Control Best Management Practices (BMPs) if not properly designed, operated or maintained may create habitats for vectors (e.g. mosquito and rodents). This Order expects that the Permittees will closely cooperate and collaborate with local vector control agencies and the State Department of Health Services for the implementation, operation, and maintenance of Treatment Control BMPs in order to minimize the risk to public health from vector borne diseases.

8. There are portions of the City and County that are mainly agricultural, rural, and open space lands. It is not the intent of the federal storm water regulations to regulate storm water discharges from land uses of these types. Therefore, these areas are exempt from the requirements of this Order unless they discharge to the Permittees' conveyance system.

9. Development and urbanization increase pollutant load, volume, and discharge velocity. First, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process. In contrast, pavement and concrete can neither absorb water nor remove pollutants, and thus the natural purification characteristics are lost. Second, urban development creates new pollution sources as the increased density of human population brings proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage waste, pesticides, household hazardous wastes, pet wastes, trash, and other anthropogenic pollutants.

10. The increased volume, increased velocity, and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion and impair stream habitat in natural drainages. Studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of its receiving waters. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as 10 percent conversion from natural to impervious surfaces. Percentage impervious cover is a reliable indicator and predictor of potential water quality degradation expected from new development. [*Impervious Cover as An Urban Stream Indicator and a Watershed Management Tool*, Schueler, T. and R. Claytor, In, Effects of Water Development and Management on Aquatic Ecosystems (1995), ASCE, New York; Leopold, L. B., (1973), *River Channel Change with Time: An Example*, Geological Society of America Bulletin, v. 84, p. 1845-1860; Hammer, T. R., (1972), *Stream Channel Enlargement Due to Urbanization: Water Resources Research*, v. 8, p. 1530-1540; Booth, D. B., (1991), *Urbanization and the Natural Drainage System--Impacts, Solutions and Prognoses*: The Northwest Environmental Journal, v. 7, p. 93-118; Klein, R. D., (1979), *Urbanization and Stream Quality Impairment*: Water Resources Bulletin, v. 15, p. 948-963; May, C. W., Horner, R. R., Karr, J. R., Mar, B. W., and Welch, E. B., (1997), *Effects of Urbanization on Small Streams in the Puget Sound Lowland Ecoregion*: Watershed Protection Techniques, v. 2, p. 483-494; Morisawa, M. and LaFlure, E. *Hydraulic Geometry, Stream Equilibrium and Urbanization* In Rhodes, D. P. and Williams, G. P. *Adjustments to the Fluvial System* p.333-350. (1979); Dubuque, Iowa, Kendall/Hunt. Tenth Annual Geomorphology Symposia Series; and *The Importance of Imperviousness*: Watershed Protection Techniques, 1(3), Schueler, T. (1994)].

Tentative

Discharge Characteristics

11. The quality and quantity of MS4 discharges vary considerably because of the effects of hydrology, geology, land use, season, and sequence and duration of precipitation events. Urban storm water runoff may contain pollutants that may lower the quality of receiving waters and impact beneficial uses of the San Joaquin River and Delta. Studies indicate there may be increases in pollutant levels and aquatic toxicity in receiving waters as a result of urban storm water discharges.

12. Pollutants that may be contained in storm water include, but are not limited to, certain heavy metals; sediments; petroleum hydrocarbons from sources such as used motor oil; microbial pathogens; pesticides; sources of acute and chronic aquatic toxicity; and nutrients that cause or contribute to the depletion of dissolved oxygen and/or toxic conditions in the receiving water. Excessive flow rates of storm water may cause or contribute to downstream erosion and/or excessive sediment discharge and deposition in stream channels.

13. Water quality assessments conducted by the Permittees, DeltaKeeper, and Regional Board identified impairment, or threatened impairment, of beneficial uses of water bodies in the Stockton Urbanized Area. The causes of impairments include oxygen demanding substances, certain heavy metals, pesticides, and pathogens. Pollutants in storm water can have damaging effects on both human health and aquatic ecosystems.

14. The discharge of washwaters and contaminated storm water from industries and businesses is an environmental threat and can also adversely impact public health and safety. The pollutants of concern in such washwaters include food waste, oil and grease, and toxic chemicals. Other storm water/industrial waste programs in California have reported similar observations. Illicit discharges from automotive service facilities and food service facilities have been identified elsewhere as a major cause of widespread contamination and water quality problems.

15. Certain pollutants present in storm water and/or urban runoff may be derived from extraneous sources that Permittees have no or limited jurisdiction over. Examples of such pollutants and their respective sources are: polynuclear aromatic hydrocarbons which are products of internal combustion engine operation, nitrates, bis (2-ethylhexyl) phthalate and mercury from atmospheric deposition, lead from fuels, copper from brake pad wear, zinc from tire wear, dioxins as products of combustion, and natural-occurring minerals from local geology. However, the implementation of the measures set forth in this Order is intended to reduce the entry of these pollutants into storm water and their discharge to receiving waters.

16. Respectively, the City and County have identified 87 and 48 major outfalls within their jurisdictions.

Statutory and Regulatory Considerations

Tentative

17. The CWA authorizes the U.S. Environmental Protection Agency (U.S. EPA) to permit a state to serve as the NPDES permitting authority in lieu of the U.S. EPA. The State of California has in-lieu authority for the NPDES program. The Porter-Cologne Water Quality Control Act or California Water Code (CWC) authorizes the State Water Resources Control Board (State Board), through the Regional Boards, to regulate and control the discharge of pollutants into waters of the State. On 22 September 1989, the State Board entered into a memorandum of agreement with the U.S. EPA to administer the NPDES Program governing discharges to waters of the United States.

18. The Water Quality Act of 1987 added Section 402(p) to the Clean Water Act (CWA 33 U.S.C. § 1251-1387). This section requires the U.S. EPA to establish regulations setting forth NPDES requirements for storm water discharges in two phases.

    - The U.S. EPA Phase I storm water regulations were directed at MS4s serving a population of 100,000 or more, including interconnected systems and storm water discharges associated with industrial activities, including construction activities. The Phase I Final Rule was published on November 16, 1990 (55 *Fed. Reg*. 47990).

    - The U.S. EPA Phase II storm water regulations are directed at storm water discharges not covered in Phase I, including small MS4s (serving a population of less than 100,000), small construction projects (one to five acres), municipal facilities with delayed coverage under the Intermodal Surface Transportation Efficiency Act of 1991, and other discharges for which the U.S. EPA Administrator or the State determines that the storm water discharge contributes to a violation of a water quality standard, or is a significant contributor of pollutants to waters of the United States. The Phase II Final Rule was published on December 8, 1999 (64 *Fed. Reg*. 68722).

19. Section 402 (p) of the CWA [33 U.S.C. § 1342(p)(3)(B)(iii)] provides that MS4 permits must "require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices (MEP), control techniques and system, design and engineering methods, and such other provisions as the U.S. EPA Administrator or the State determines appropriate for the control of such pollutants." The State Water Resources Control Board's (State Board) Office of Chief Counsel (OCC) has issued a memorandum interpreting the meaning of MEP to include technical feasibility, cost, and benefit derived with the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible in the locality or that BMPs costs would exceed any benefit to be derived (dated February 11, 1993).

20. This permit is intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the MEP from the permitted areas in the Stockton Urbanized Area subject to the Permittees' jurisdiction.

21. Section 402(p)(3)(B)(ii) of the CWA requires that NPDES permits effectively prohibit non-storm water discharges into MS4s. Federal regulation 40 CFR 122.26(d)(2)(iv)(B)(1) requires control programs to prevent illicit discharges to MS4s and allow certain categories of non-storm water discharges to MS4s provided that the Permittees eliminate such discharges once they are identified as sources of pollutants to waters of the United States.

22. The State Board has issued two statewide general NPDES permits for storm water discharges: one for storm water from industrial sites [NPDES No. CAS000001, General Industrial Activity Storm Water Permit (GIASP)] and the other for storm water from construction sites [NPDES No. CAS000002, General Construction Activity Storm Water Permit (GCASP)]. The GIASP was reissued on April 17, 1997. The GCASP was reissued on August 19, 1999. In addition, the Regional Board has issued General Permit Order No. 5-00-175 for dewatering and other low threat discharges, which authorizes such discharges to the MS4s owned and operated by Permittees. The Permittees propose to conduct local regulatory compliance inspections at industries or construction sites which discharge to their MS4s and which are currently covered under the State NPDES General Permits. Under the CWA, the Permittees cannot enforce the State NPDES General Permits. However, the Permittees, through inspections of these facilities, can bring problems to the attention of Regional Board staff who can work cooperatively with the Permittees to implement an effective storm water regulatory program.

23. Federal regulations 40 CFR 122.26(d)(2)(iv)(A) and 40 CFR 122.26(d)(2)(iv)(C) require that MS4 permittees implement a program to monitor and control pollutants in discharges to the municipal system from industrial and commercial facilities that contribute a substantial pollutant load to the MS4. Federal regulations require that permittees establish priorities and procedures for inspection of industrial facilities and priority commercial establishments. This permit, consistent with the U.S. EPA policy, incorporates a cooperative partnership, including the specifications of minimum expectations, between the Regional Board and the Permittees for the inspection of industrial facilities and priority commercial establishments to control pollutants in storm water discharges (58 *Fed. Reg.* 61157).

24. When industrial or construction site discharges occur in violation of local permits and ordinances, the Regional Board refers first to the municipality where the discharge occurs for appropriate actions. If the municipality has demonstrated a good faith effort to educate and enforce but remains unsuccessful, the Regional Board may then step in to enforce the applicable statewide General Permit. If the municipality has not demonstrated a good faith enforcement effort, the Regional Board may initiate enforcement action against both the industrial or construction discharger under the statewide General Permits, as well as against the authorizing municipal Permittee for violations of this Order. Each Permittee must also provide the first level of enforcement against illegal discharges from other land uses it has authorized, such as commercial and residential developments.

25. It is the Regional Board's intent that this Order shall ensure compliance with water quality standards. This Order, therefore, includes requirements to the effect that discharges shall not cause or contribute to violations of water quality standards that would cause or create a condition of nuisance, pollution, or water quality impairment in receiving waters. Accordingly, the Regional Board is requiring that these requirements be addressed through the effective implementation of Best Management Practices (BMPs) to reduce pollutants in storm water.

26. Federal, state, regional, or local entities within the Permittees' boundaries, not currently named in this Order, operate storm drain facilities and/or discharge storm water to the storm drains covered by this Order. The Permittees may lack legal jurisdiction over these entities under applicable state and federal authorities. Consequently, the Regional Board recognizes that the Permittees should not be held responsible for such facilities and/or discharges. The Port of Stockton and Caltrans are currently designated as such entities. On 28 February 1997, the Regional Board issued Order No. 97-042 (NPDES No. CA0084077), a separate NPDES municipal storm water permit for the Port of Stockton. On 15 July 2000, the State Board issued a separate statewide NPDES storm water permit to Caltrans (NPDES No. CAS000003, Order No. 99-06-DWQ). The Permittees have entered into cooperative agreements with the Port of Stockton and Caltrans for the purpose of maintaining mutually beneficial storm water management program coordination, cooperation and communication.

27. The State and Regional Boards may consider issuing separate NPDES storm water permits to other federal, state, or regional entities operating within the Permittees' boundaries that may not be subject to direct regulation by the Permittees. Federal agencies are not subject to municipal storm water requirements although they may be permitted as industrial dischargers.

28. CWC § 13263(a) requires that waste discharge requirements issued by the Regional Board "shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, and the water quality objectives reasonably required for that purpose, other waste discharges, and the need to prevent nuisance, and the provisions of CWC § 13241." The Regional Board has considered the requirements of § 13263 and § 13241, and applicable plans, policies, rules, and regulations in developing these waste discharge requirements.

29. The Regional Board adopted the *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (hereafter Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve water quality objectives for all waters of the Basin. This Order implements the Basin Plan.

30. The beneficial uses of the San Joaquin River and Delta downstream of the discharge as identified in Table II-1 of the Basin Plan are municipal and domestic supply; industrial; and agricultural supply; contact and other non-contact recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources.

31. The beneficial uses of the underlying ground water beneath the Stockton Urbanized Area as identified in the Basin Plan, are municipal and domestic water supply, industrial service, industrial process, and agricultural supply.

32. It is not feasible at this time, to establish numeric effluent limits for pollutants in storm water discharges from MS4s. Therefore, the effluent limitations in this Order are narrative, and include the requirement to reduce pollutants in storm water discharges to the MEP. This Order requires the implementation of performance standards and BMPs in lieu of numeric effluent limitations identified in the Permittees' SWMPs to control and abate the discharge of pollutants in storm water discharges. Implementation of performance standards and BMPs in accordance with the Permittees' SWMPs and their schedules constitutes compliance with MEP requirements, and with requirements to achieve water quality objectives.

33. It is not feasible at this time to establish numeric effluent limits for pollutants in non-storm water discharges from facilities owned or operated by the Permittees. Therefore, the effluent limitations in this Order are narrative, and include the requirement to reduce pollutants in non-storm water discharges through implementation of Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technologies (BCT). Until such time that effluent limits are developed, implementation of both structural and non-structural BMPs constitutes compliance with the CWA Section 301 for BAT/BCT effluent limitation standards.

34. The U.S. EPA published an 'Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits' on August 26, 1996 (61 *Fed. Reg.* 43761). This policy discusses the appropriate kinds of water quality-based effluent limitations to be included in NPDES storm water permits to provide for the attainment of water quality standards.

35. On 12 March 2001, the U.S. Court of Appeals ruled that it is necessary to obtain an NPDES permit for application of aquatic pesticides to waterways [*Headwaters, Inc. vs. Talent Irrigation District,* 243 F.3d. 526 (Ninth Cir., 2001)]. This decision is controlling in California for nonagricultural applications of pesticides to waterways. On 19 July 2001, the State Board adopted a general NPDES permit (Order No. 2001-12-DWQ) for public entities that discharge pollutants to waters of the United States associated with the application of aquatic pesticides for resource or pest management. Public entities that conduct such activities must seek coverage under the general permit.

36. On 17 June 1999, the State Board adopted Order No. WQ 99-05, a precedent setting-decision, which identifies acceptable receiving water limitations language to be included in municipal storm water permits issued by the State and Regional Boards. The receiving water limitations included herein are consistent with the State Board Order, U.S. EPA policy, and the U.S. Court of Appeals decision in *Defenders of Wildlife v. Browner* (Ninth Cir., 1999). The State Board's OCC has determined that the federal court decision did not conflict with State Board Order No. WQ 99-05 (memorandum dated October 14, 1999).

37. Federal regulation 40 CFR 122.42(c)(7) requires the Permittees to submit an annual report that identifies water quality improvements or degradation.

38. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (Public Resources Code, Section 21100, et. seq.) in accordance with Section 13389 of the California Water Code.

39. This Order serves as an NPDES permit, pursuant to Section 402 of the CWA, and amendments thereto, and shall take effect upon the date of hearing, provided that U.S. EPA has no objections.

Storm Water Management Program

40. Federal regulation 40 CFR 122.26(d)(2)(iv) requires the Permittees to submit a SWMP to reduce the discharge of pollutants in storm water to the MEP, and to effectively prohibit non-storm water discharges into municipal storm drain systems within the Permittees' jurisdictions during the five-year duration of the permit. During this permit period, the Permittees shall demonstrate substantial compliance with their respective SWMP and this Order through the information and data supplied in the Permittee's Annual Report.

41. This Order requires evaluation of water quality impacts of storm water discharges from industrial and construction sites, existing urbanized areas, and new developments. This Order also requires implementation and evaluation of the SWMP and related programs to reduce the discharge of pollutants in storm water runoff to MEP and to improve water quality and protect beneficial uses.

42. The Permittees submitted their SWMP in August 1999. The SWMP fulfills the Regional Board's permit application requirements subject to the condition that it will be improved and revised in accordance with the provisions of this Order. The SWMP describes the framework for management of storm water discharges during the term of this Order. The SWMP describes the goals and objectives, legal authorities, source identification process, funding sources, fiscal analysis, assessment controls, BMPs evaluation and improvement process, and monitoring plan of the Permittees' storm water management program. The SWMP includes program elements that each Permittee will implement to reduce the discharge of pollutants in storm water to the MEP, and to effectively prohibit non-storm water discharges into MS4s and watercourses within each Permittee's jurisdiction. The

Permittee's SWMP is a site-specific modification of the existing Comprehensive Storm Water Management Program required under the previous MS4 permit, Order No. 96-105. The various components of the SWMP, taken as a whole rather than individually, are expected to reduce pollutants in storm water and urban runoff to the MEP.

43. The goal of the Permittees' SWMP is to reduce the degradation, by urban runoff, of the beneficial uses of natural resources of the metropolitan area of Stockton. These natural resources include the San Joaquin River and tributary streams, regional groundwater aquifer, and storm water detention basins. The objectives of the SWMP are:

    a. To identify and control those pollutants in urban runoff that pose significant threats to these resources and their beneficial uses;
    b. To comply with the federal regulations to eliminate or control, to the MEP, the discharge of pollutants from urban runoff associated with the metropolitan storm drainage system;
    c. To develop a cost-effective program which focuses on pollution prevention of urban storm water;
    d. To seek cost effective alternative solutions where prevention is not a practical solution for a significant problem; and
    e. To coordinate implementation of control measures with other agencies.

44. The SWMP outlined in the RWD and the additional and/or revised provisions contained in this Order emphasize pollution prevention through the following elements:

    a. Program Management
    b. Legal Authority
    c. Construction Program
    d. Industrial and commercial Program
    e. Municipal Operations Program
    f. Public Education Program
    g. Illicit Discharge Program
    h. Performance and Effectiveness Evaluation
    i. Fiscal Analysis
    j. Monitoring Plan
    k. Water Quality Based Programs
    l. Development Standards

45. In accordance with Order No. 95-035 (NPDES No. CA0083470) and the SWMP, the City has completed the following components of its program: changes to its General Plan, formation of a development review committee, evaluation of existing structural controls, and adoption of conditions of approval for new development, a storm water quality control criteria plan, development review procedures, and a grading ordinance. With the exception of the evaluation of existing structural controls and changes to the General Plan, the County has not completed any of these program components.

46. The SWMP includes a Smith Canal Water Quality Improvement Program in which the Permittees propose to complete the following tasks:

    a. Identify additional monitoring and modeling needs to further define the sources and extent of water quality problems in Smith Canal;
    b. Evaluate potential BMPs including source and treatment controls that can be applied within the Smith Canal drainage area;
    c. Outline a program to conduct treatment control feasibility studies and pilot testing of BMPs in the Smith Canal drainage area; and
    d. Recommend an approach to monitor BMP performance and assess water quality trends.

47. The water quality improvement plan program proposed for Smith Canal and additional and/or revised provisions contained in this Order provide adequate annual monitoring that is necessary to track trends in water quality improvement.

48. This Order includes a Monitoring Program that incorporates Minimum Levels (MLs) established under the State Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP)*. The SIP's MLs represent the lowest quantifiable concentration for priority toxic pollutants that is measurable with the use of proper method-based analytical procedures and factoring out matrix interference. The SIP's MLs therefore represent the best available science for determining MLs and are appropriate for a storm water monitoring program. The use of MLs allows the detection of toxic priority pollutants at concentrations of concern using recent advances in chemical analytical methods.

49. The Permittees' SWMP contain performance standards and BMPs that each Permittee will perform to reduce the discharge of pollutants to the MEP from their MS4s. Performance standards represent the minimum level of effort required of each Permittee in the implementation of BMPs as described in the SWMP. The specification of Performance Standards in the Permittee's SWMP also simplifies the task of determining if a Permittee is putting forth a level of effort that will control pollutants in storm water discharges to the MEP.

50. Performance Standards include implementation of recommended BMPs (source and treatment controls) for new development and redevelopment projects as required by local development standards and included in applicable standard specifications, design and procedures, and guidance documents (hereafter collectively referred to as Development Standards). Each Permittee's Development Standards will be revised in accordance with the requirements of this Order.

51. The SWMP and modifications or revisions to the SWMP that are approved in accordance with this Order, are an integral and enforceable component of this Order.

Tentative

52. This Order provides for an increase in storm water discharge due to continuing development within each Permittee's jurisdiction. Therefore, it is possible that future degradation of receiving water quality may occur. The continued implementation of the Permittees' SWMP that comply with the requirements of this Order will reduce the potential for discharges from MS4s to cause or contribute to the degradation of the receiving water quality. Therefore, this Order is consistent with the anti-degradation provisions of 40 CFR 131.12 and the State Board Resolution 68-16.

Development Standards

53. On 5 October 2000, the State Board adopted Order WQ 2000-11, a precedent setting decision concerning the use of Standard Urban Storm Water Mitigation Plans, hereafter Development Standards, in municipal storm water permits for new developments and significant redevelopments by the private sector. The State Board recognized that the decision includes significant legal or policy determinations that are likely to recur (Gov. Code §11425.60). Due to the precedent setting nature of Order WQ 2000-11, the Regional Board's MS4 permits must be consistent with applicable portions of the State Board's decision and include Development Standards.

54. The State Board's Chief Counsel interprets Order WQ 2000-11 to encourage regional solutions and endorses a mitigation fund or "bank" that may be funded by developers who obtain waivers from the numerical design standards for new development and significant redevelopment.

55. Federal regulation 40 CFR 131.10(a) prohibits states from designating waste transport or waste assimilation as a use for any water of the United States. Authorizing the construction of a storm water/urban runoff treatment facility in a jurisdictional water body would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction and operation of a pollution control facility in a water body can impact the physical, chemical, and biological integrity as well as the beneficial uses of the water body. Therefore, storm water treatment and/or mitigation in accordance with Development Standards and any other requirements of this Order must occur prior to the discharge of storm water into a water of the United States.

56. On 16 April 1997, the City adopted Ordinance No. 010-97 (Ordinance) to implements its Storm Water Quality Control Criteria Plan for new development and significant redevelopment. The Ordinance establishes requirements for selection of post-construction storm water quality controls (BMPs) to reduce pollutants from new development and significant redevelopment to the MEP. The Ordinance also requires adoption of Administrative Guidelines to provide procedures for the evaluation and selection of post-construction BMPs. However, the City Ordinance does not contain standards which are adequate to meet the standards affirmed in Order WQ 2000-11.

57. Studies indicate that facilities with paved surfaces subject to frequent motor vehicle traffic (such as parking lots and fast food restaurants), or facilities that perform vehicle repair, maintenance, or fueling (automotive service facilities) are potential sources of pollutants of concern in storm water. [References: Pitt *et* al., *Urban Storm Water Toxic Pollutants: Assessment, Sources, and Treatabilit*y, Water Environment Res., 67, 260 (1995*); Results of Retail Gas Outlet and Commercial Parking Lot Storm Water Runoff Stud*y, Western States Petroleum Association and American Petroleum Institute, (1994); *Action Plan Demonstration Project, Demonstration of Gasoline Fueling Station Best Management Practice*s, Final Report, County of Sacramento (1993); *Source Characterizatio*n, R. Pitt, In Innovative Urban Wet-Weather Flow Management Systems (2000) Technomic Press, Field, R *et a*l. editors; *Characteristics of Parking Lot Runoff Produced by Simulated Rainfal*l, , L.L. Tiefenthaler *et a*l. Technical Report 343, Southern California Coastal Water Research Project (2001)].

58. Retail gasoline outlets (RGOs) are points of convergence for vehicle traffic and are similar to parking lots and urban roads. Studies indicate that storm water discharges from RGOs have high concentrations of hydrocarbons and heavy metals. *[Schueler and Shepp* (1992)]. Pilot studies indicate that treatment control best management practices installed at retail gasoline stations are effective in removing pollutants, reasonable in capital cost, easy to operate, and do not present safety risks (*Rouge River National Wet Weather Demonstration Project, Task Product Memorandum – Evaluation of On-line Media Filters RPO-NPS-TPM59.0*0, Wayne County, MI, March 1999).

59. The Los Angeles and San Diego Regional Water Quality Control Boards have jointly prepared a Technical Report on the applicability of new development BMP design criteria for RGOs, [*Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impact*s, (June 2001)]. RGOs in Washington, Oregon, and other parts of the United States are already subject to numerical BMP design criteria under the MS4 program.

60. In March 1997, the California Storm Water Quality Task Force (SWQTF) published *Best Management Practice Guide – Retail Gasoline Outlets*.

61. State Board Order WQ 2000-11 directed the Los Angeles Regional Water Quality Control Board to mandate that RGOs employ the BMPs listed in SWQTF's March 1997 RGO BMP publication. Due to the threat to storm water quality from RGOs, Development Standards for RGOs are included in this Order.

62. Each Permittee is individually responsible for adopting and enforcing local ordinances necessary to implement effective BMPs to prevent or reduce pollutants in storm water, and for providing funds for capital, operation, and maintenance expenditures necessary to implement such BMPs for the storm drain system that it owns and/or operates. Enforcement actions concerning this Order will, whenever necessary, be pursued only against the individual Permittee responsible for specific violations of this Order.

Impaired Water Bodies

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63. CWA Section 303(d) and 40 CFR 130.7 require states to identify water quality-impaired water bodies and pollutants of concern, and develop Total Maximum Daily Loads (TMDLs). A TMDL is a quantitative assessment of the total pollutant load that can be discharged from all sources each day while still meeting water quality objectives. The Regional Board is currently in the process of developing TMDLs for listed water bodies within the Region. Once the Regional Board and U.S. EPA approve TMDLs, the Permittees' discharge of storm water into an impaired water body will be subject to load allocations and implementation plans established under the TMDLs. Certain early actions and/or assessments by the Permittees to address 303(d) listed water bodies and constituents are warranted and required by this Order.

64. On 18 May 2000, the U.S. EPA established numeric criteria for priority toxic pollutants for the State of California [California Toxics Rule (CTR) 65 *Fed. Reg*. 31682 (40 CFR 131.38)], for the protection of human health and aquatic life. These apply as ambient water quality criteria for inland surface waters, enclosed bays, and estuaries. The State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California–2000,* on 2 March 2000, to implement the CTR (State Board Resolution No. 2000-15 as amended by State Board Resolution No. 2000-030). This policy requires that discharges comply with TMDL-derived load allocations as soon as possible but no later than 20 years from the policy's effective date.

65. **Five-Mile Slough, Mosher Slough, Stockton Deep Water Channel, and the San Joaquin River** are listed as impaired water bodies pursuant to Section 303(d) of the CWA. The Delta Waterways, which are the receiving waters for the aforementioned rivers, are also listed. The Regional Board plans to develop TMDLs for these water bodies over the next decade. Once the Regional Board and U.S. EPA approve TMDLs, the Permittees' storm water discharge of urban runoff into an impaired water body will be subject to load allocations established by TMDLs.

66. The Regional Board considers storm water discharges from the Stockton Urbanized Area to be significant sources of pollutants. Under Section 303(d) of the CWA, **Five-Mile Slough (chlorpyrifos and diazinon), Mosher Slough (chlorpyrifos and diazinon), Stockton Deep Water Channel (dioxin, furans, and PCBs), and San Joaquin River (boron, chlorpyrifos, DDT, diazinon, electrical conductivity, Group A pesticides, selenium, and unknown toxicity)** are listed as water quality impaired by the pollutants shown in parentheses.

67. The Regional Board's 28 September 2001 staff report entitled *Draft Staff Report on Recommended Changes to California's Clean Water Act Section 303(d) List* proposes to add several water bodies in the Stockton area to the 303(d) list. These water bodies and the cause(s) of their impairment include Calaveras River – diazinon, dissolved oxygen (DO), and pathogens; Five-Mile Slough – DO and pathogens in addition to chlorpyrifos and

diazinon; Mormon Slough – DO and pathogens; Mosher Slough – DO and pathogens in addition to chlorpyrifos and diazinon; Smith Canal Slough – DO, organophosphate pesticides, and pathogens; Stockton Deep Water Channel - pathogens in addition to dioxin, furans, and PCBs; and Walker Slough – diazinon and pathogens.

Public Process

68. The Regional Board has notified the Permittees and interested parties of its intent to prescribe waste discharge requirements for this discharge. These parties have been given an opportunity to address the Regional Board at a public hearing and an opportunity to submit their written views and recommendations to the Regional Board.

69. The Regional Board has considered the information in the attached Fact Sheet in developing the Findings of this Order. The attached Fact Sheet is part of this Order.

70. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Order No. 95-035 is rescinded, and that the Permittees, their agents, successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions – Storm Water Discharges

1. Discharges from MS4s in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance as defined in Section 13050 of the California Water Code are prohibited.

2. Discharges from MS4s, which cause or contribute to exceedances of receiving water quality standards for surface water or ground water are prohibited.

3. Discharges into and from MS4s containing pollutants which have not been reduced to the MEP are prohibited.

B. Discharge Prohibitions – Non-Storm Water Discharges

1. Each Permittee shall effectively prohibit all types of non-storm water discharges into its MS4s unless such discharges are either authorized by a separate NPDES permit; or not prohibited in accordance with this Order.

2. Pursuant to 40 CFR 122.26(d)(2)(iv)(B)(1), the following categories of non-storm water discharges need only be prohibited from entering a MS4 if such categories of discharges are identified by the Permittees as a significant source of pollutants to waters of the United States:

   a. Diverted stream flows;
   b. Rising ground waters;
   c. Uncontaminated ground water infiltration as defined by 40 CFR 35.2005(20);
   d. Uncontaminated pumped ground water;
   e. Foundation drains;
   f. Springs;
   g. Water from crawl space pumps;
   h. Footing drains;
   i. Air conditioning condensation;
   j. Flows from riparian habitats and wetlands;
   k. Water line flushing;
   l. Landscape irrigation;
   m. Discharges from potable water sources other than water main breaks;
   n. Irrigation water;
   o. Individual residential car washing;
   p. De-chlorinated swimming pool discharges; and
   q. Lawn watering.
   r. Street wash water.

3. When a discharge category above is identified as a significant source of pollutants to waters of the United States, the Permittees shall either:

   a. Prohibit the discharge category from entering its MS4s; or

   b. Not prohibit the discharge category and implement, or require the responsible party(ies) to implement BMPs which will reduce pollutants to the MEP; and

   c. If the Permittees elect not to prohibit the discharge category and implement, or require the responsible party(ies) to implement BMPs which will reduce pollutants to the MEP under B.3.b. above, the Permittees shall submit the following information to the Regional Board for approval of the Executive Officer within 90 days upon identification of such discharge category:

      i. The non-storm water discharge category listed above which the Permittees elects not to prohibit; and

      ii. The BMP(s) for each discharge category listed above which the Permittees will implement, or require the responsible party(ies) to implement, to prevent or reduce pollutants to the MEP.

4. Emergency fire fighting flows (i.e., flows necessary for the protection of life or property) do not require immediate implementation of BMPs and are not prohibited. However, each Permittee shall coordinate with other agencies and develop a response plan to ensure minimal impacts of fire fighting flows to the environment. BMPs must be implemented to reduce pollutants from non-emergency fire fighting flows (i.e., flows from controlled or practice blazes) identified by the Permittees to be significant sources of pollutants to waters of the United States. The response plan shall be updated as needed and submitted with the Annual Report.

5. Each Permittee shall examine all dry weather analytical monitoring results collected in accordance with the Monitoring Program of this Order to identify water quality problems that may be the result of any non-storm water discharge, including any non-prohibited discharge category(ies). Follow-up investigations shall be conducted as necessary to identify and control any non-prohibited discharge category(ies) listed above. Non-prohibited discharges listed above containing pollutants that cannot be reduced to the MEP by the implementation of BMPs shall be prohibited on a categorical or case-by-case basis.

C. Receiving Water Limitations

1. Receiving water limitations are site-specific interpretations of water quality standards from applicable water quality control plans. As such they are required as part of the permit. However, a receiving water condition not in conformance with the limitation is not necessarily a violation of this Order. The Regional Board may require an investigation to determine cause and culpability prior to asserting a violation has occurred. The discharge shall not cause the following in the receiving water:

   a. Concentrations of dissolved oxygen to fall below 6.0 mg/l from 1 September through 30 November and 5.0 mg/l the remainder of the year.

   b. Oils, greases, waxes, or other materials to form a visible film or coating on the water surface or on the stream bottom.

   c. Oils, greases, waxes, floating material (liquids, solids, foams, and scums) or suspended material to create a nuisance or adversely affect beneficial uses.

   d. Chlorine to be detected in the receiving water in concentrations equal to or greater than 0.01 mg/l.

   e. Aesthetically undesirable discoloration.

   f. Fungi, slimes, or other objectionable growths.

g. The 30-day average for turbidity to increase as follows:

i. More than 1 Nephelometric Turbidity Units (NTUs) where natural turbidity is between 0 and 5 NTUs.

ii. More than 20 percent where natural turbidity is between 5 and 50 NTUs.

iii. More than 10 NTUs where natural turbidity is between 50 and 100 NTUs.

iv. More than 10 percent where natural turbidity is greater than 100 NTUs.

h. The normal ambient pH to fall below 6.5, exceed 8.5, or change by more than 0.5 unit.

i. Deposition of material that causes nuisance or adversely affects beneficial uses.

j. Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to cause nuisance or adversely affect beneficial uses.

k. Radionuclides to be present in concentrations that exceed maximum contaminant levels specified in the California Code of Regulations, Title 22; that harm human, plant, animal or aquatic life; or that result in the accumulation of Radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

l. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.

m. Toxic pollutants to be present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that produce detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.

n. Violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Board pursuant to the CWA and regulations adopted thereunder.

2. The discharge shall not cause or contribute to a violation of any applicable water quality standard for receiving waters contained in the Basin Plan. If different applicable water quality standards are adopted after the date of adoption of this Order, the Regional Board may revise and modify this Order as appropriate.

Tentative

D. Provisions

1. Each Permittee shall comply with this Order through the timely implementation of control measures and other actions to reduce pollutants in the discharge to the MEP in accordance with the SWMP and other requirements of this Order, including any modifications. The SWMP shall be designed to achieve compliance with this Order. If exceedance(s) of water quality standards persist notwithstanding implementation of the SWMP and other requirements of this Order, the Permittees shall assure compliance with this Order by complying with the following procedure:

   a. Upon determination by any Permittee that storm water discharges have caused or are causing an exceedance of an applicable water quality standard, the Permittee shall promptly notify the Regional Board. Following notification by the Permittee or following a determination by Regional Board staff that the storm water discharges have caused or are causing an exceedance of an applicable water quality standard, the Permittee shall submit a Report of Water Quality Exceedance (RWQE) to the Regional Board that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that have caused or are causing the exceedance of applicable water quality standard. The RWQE may be incorporated in the Annual Report revision to the SWMP unless the Regional Board directs an earlier submittal. The RWQE shall include an implementation schedule and the Regional Board may require modifications to the RWQE. Any modifications to the RWQE required by the Regional Board shall be submitted within 30 days of notification;

   b. Within 45 days following approval of the RWQE by the Regional Board, the Permittees shall revise their SWMP and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required; and

   c. Implement the revised SWMP and monitoring program in accordance with the approved schedule.

2. As long as the Permittees have complied with the procedures set forth above and are implementing the revised SWMP, the Permittees do not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to do so.

3. The County shall **immediately** complete the following tasks: (1) Establish Conditions of Approval for New Development and Significant Redevelopment; (2) Adopt Storm Water Quality Control Criteria Plan; (3) Establish Development Review Procedures; and (4) Adopt/Update Standard Specifications and Plans to incorporate Storm Water Quality provisions.

4. Within its geographic jurisdiction, each Permittee shall:

   a. Comply with the requirements of this Order, the SWMP, and any modifications to the SWMP;

   b. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of the SWMP applicable to such Permittee in an efficient and cost-effective manner;

   c. Participate in intra-agency coordination (e.g. Fire Department, Building and Safety, Code Enforcement, Public Health, etc.) necessary to successfully implement the provisions of this Order and the SWMP.

   d. Prepare an annual Budget Summary of expenditures applied to the storm water management program. This summary shall identify the storm water budget for the following year, using estimated percentages and written explanations where necessary, for the specific categories noted below:

      i. Program management
         - Administrative costs

      ii. Program Implementation

         Where information is available, provide an estimated percent breakdown of expenditures for the categories below:
         - Illicit connection/illicit discharge
         - Development planning
         - Development construction
         - Construction inspection activities
         - Industrial/Commercial inspection activities
         - Public Agency Activities
         - Maintenance of Structural BMPs and Treatment Control BMPs
         - Municipal Street Sweeping
         - Catch basin clean-up
         - Trash collection
         - Capital costs

      iii. Public Information and Participation
      iv. Monitoring Program
      v. Miscellaneous Expenditures
      vi. In addition to the Budget Summary, each Permittee shall report any supplemental dedicated budgets for the same categories.

Storm Water Management Program

5. Upon adoption of this Order, each Permittee shall modify its SWMP to address the requirements of this Order and submit the SWMP by **1 September 2002** for public review and comment, and Regional Board approval. New or revised BMPs may be based upon special studies or other activities conducted by the Permittees, literature review, or special studies conducted by other programs or dischargers. New or revised BMPs shall include the baseline components to be accomplished and assessment tools, Performance Standards, or methods to be used to verify that the BMPs have been achieved. The Permittees shall incorporate newly developed or updated BMPs and assessment tools/Performance Standards into applicable annual revisions to the SWMP and adhere to implementation of the new/revised BMPs. The approved SWMP shall serve as the framework for identification, assignment, and implementation of BMPs. Each Permittee shall implement or require implementation of BMPs in the approved SWMP to ensure that pollutant discharges from its MS4s are prevented or reduced to the MEP. Each Permittee shall implement a SWMP that contains the following components:

   a. Legal Authority

   b. Program Management

   c. Additional Programs
      - Construction Program
      - Industrial and Commercial Program
      - Municipal Operations Program
      - Illicit/Illegal Discharge Program
      - Public Education and Outreach Program
      - Monitoring Plan
      - Fiscal Analysis
      - Performance and Effectiveness Evaluation

   d. Water Quality Based Programs

   e. Development Standards

Legal Authority

6. The Permittees shall establish, maintain, and enforce adequate legal authority to control pollutant discharges from their MS4s through ordinance, statute, permit, contract, or similar means. This legal authority must, at a minimum, authorize the Permittees to:

a. Control the contribution of pollutants in discharges of runoff associated with industrial and construction activity to their MS4s. This requirement applies both to industrial and construction sites, which have coverage under the statewide general industrial or construction storm water permits, as well as to those sites that do not require permit coverage.

b. Prohibit identified illegal discharges not otherwise allowed pursuant to **Prohibitions – Non-Storm Water Discharges** from which pollutants have not been removed to the MEP including but not limited to the following:

   i. Sewage overflows;

   ii. Discharges of wash water resulting from the hosing or cleaning of gas stations, vehicle repair services, or other types of automotive services facilities;

   iii. Discharges resulting from the storage, cleaning, repair, or maintenance of any type of equipment, machinery, or facility including motor vehicles, cement-related equipment, and portable toilet servicing, etc.;

   iv. Discharges of wash water from mobile operations such as mobile vehicle washing, steam cleaning, power washing, and carpet cleaning, etc.;

   v. Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, and commercial areas including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.;

   vi. Discharges of runoff from material storage areas containing equipment, chemicals, fuels, grease, oil, or other hazardous materials;

   vii. Discharges of pool or fountain water containing chlorine or bromine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;

   viii. Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes;

   ix. Discharges of food-related wastes (e.g., grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.);

   x. Discharge of runoff from washing toxic materials from paved or unpaved areas; and

xi. Discharge of materials such as litter, landscape debris, construction debris, or any state or federally banned pesticides.

c. Prohibit and eliminate illicit connections to the MS4s;

d. Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4s;

e. Use enforcement mechanisms to require compliance with the Permittees storm water ordinances, permits, contracts, or orders;

f. Control the contribution of pollutants from one portion of the shared MS4s to another portion of the storm sewer system through interagency agreements among the Permittees (and other owners of the storm sewer system such as Caltrans or the Port of Stockton);

g. Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits and with this Order, including the prohibition on illicit discharges to the MS4s;

h. Require the use of BMPs to prevent or reduce the discharge of pollutants to MS4s to MEP; and

i. Require that Treatment Control BMPs be properly operated and maintained to prevent the breeding of vectors.

7. The Discharger shall amend and adopt (if necessary), no later than **1 April 2003**, a specific storm water and urban runoff ordinance to enforce all requirements of this Order.

8. Each Permittee shall provide to the Regional Board a statement certified by its chief legal counsel that they have adequate legal authority to implement and enforce each of the requirements contained in 40 CFR 122.26(d)(2)(i)(A-F) and this Order. This statement shall be included in the **1 September 2003** Annual Report that describes the following:

a. Citation of urban runoff related ordinances and the reasons they are enforceable;

b. Identification of the local administrative and legal procedures available to mandate compliance with urban runoff related ordinances and therefore with the conditions of this Order;

c. Identification of all departments within the jurisdiction that conduct storm water pollution prevention related activities and their roles and responsibilities under this Order. The annual progress report shall include an up-to-date organizational chart specifying these departments and key personnel responsible for issuance of enforcement actions.

d. Description of how these ordinances are implemented and appealed; and

e. Description of whether the municipality can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.

Program Management

9. **Program Management:** Program management involves ensuring that all elements of the SWMP are implemented on schedule and all requirements of this Order are complied with.

a. **Annual Work Plan:** The Permittees shall submit a Annual Work Plan by **1 April** of each year. The Annual Work Plan shall provide the SWMP's and the Permittees' proposed activities for the upcoming year beginning 1 July of current year and ending 30 June the following year.

b. **Annual Report:** The Permittees shall submit an Annual Report by **1 September** of each year. The Annual Report shall document the status of the SWMP's and the Permittees' activities during the previous fiscal year, including the results of a qualitative and quantitative field level assessment of activities implemented by the Dischargers, and the performance of tasks contained in the SWMP. The Annual Report shall include a compilation of deliverables and milestones completed during the previous 12-month period, as described in the SWMP and Annual Work Plan. In each Annual Report, the Permittees may propose pertinent updates, improvements, or revisions to the SWMP, which shall be complied with under this Order.

c. **SWMP Implementation:** Each Permittee shall have commenced full implementation of all requirements of the SWMP Section of this Order by **1 September 2003**, with the exception of the requirements included in the Development Standards provisions of this Order. The SWMP, with modifications, revisions, or amendments as may be approved by the Board, is an enforceable part of this Order.

d. **SWMP Modification:** The Permittees' SWMP may need to be modified, revised, or amended from time to time to respond to a change in conditions and to incorporate more effective approaches to pollutant control. Provisions of this Order require review and/or revision of the certain components of the

Permittees' SWMP. Proposed SWMP revisions will be part of the annual review process and incorporated in the Annual Report. In addition, the Permittees shall revise their SWMP to comply with regional or watershed-specific requirements, and/or waste load allocations developed and approved pursuant to the process for the designation and implementation of TMDLs for impaired water bodies. SWMP revisions shall be brought before the Board as permit amendments.

e. **Memorandum of Understanding:** The Permittees shall **collaborate with each other** to address common issues, promote consistency among SWMP and Monitoring Programs, and to plan and coordinate activities required under this Order.

i. The Permittees shall review their existing Memorandum of Understanding (MOU) to ensure that it provides for a management structure that includes the items below, and submit to the Regional Board no later than **1 April 2003**, an updated MOU (if there are any deficiencies found) that addresses all of the listed items below:
   a) Designation of Joint Responsibilities;
   b) Decision making;
   c) Information management of data and reports, including the requirements under this Order; and
   d) Any and all other collaborative arrangements for compliance with this Order.

ii. The Permittees shall jointly develop a standardized format(s) for all reports required under this Order (e.g., annual reports, monitoring reports, fiscal analysis reports, and program effectiveness reports, etc.). The standardized reporting format(s) shall be used by all Permittees and shall include protocols for electronic reporting.

Additional Programs

10. **Construction Program**

a. Each Permittee shall update and continue to implement the Construction Component of its SWMP to reduce pollutants in runoff from construction sites during all construction phases. At a minimum the Construction Program shall address:

i. Pollution Prevention
ii. Grading Ordinance Modification
iii. Construction and Grading Approval Process
iv. Source Identification

v. Threat to Water Quality Prioritization
vi. BMP Implementation
vii. Construction Site Inspections
viii. Enforcement Measures for Construction Sites
ix. Reporting of Non-compliant Sites
x. Education Focused on Construction Activities

b. Each Permittee shall implement a program to control runoff from construction activity at all construction sites within its jurisdiction. The program shall ensure the following minimum requirements are effectively implemented at all construction sites:

i. Sediments generated on the project site shall be retained using adequate Source Control or Structural BMPs;

ii. Construction-related materials, wastes, spills, or residues shall be retained at the project site to avoid discharge to streets, drainage facilities, receiving waters, or adjacent properties by wind or runoff;

iii. Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site; and

iv. Erosion from slopes and channels shall be controlled by implementing an effective combination of BMPs such as limiting grading during the wet season; inspecting graded areas during rain events; planting and maintenance of vegetation on slopes; and covering erosion susceptible slopes.

c. For construction sites one acre and greater, each Permittee shall comply with all conditions in Provision 10.b above and shall:

i. Require the preparation and submittal of a local Storm Water Pollution Prevention Plan (SWPPP) for approval prior to issuance of a grading permit for construction projects:

- The SWPPP shall include appropriate construction site BMPs and maintenance schedules and must include the rationale used for selecting or rejecting BMPs.

- The project architect, engineer of record, or authorized qualified designee, must sign a statement on the SWPPP stating that appropriate BMPs have been selected and that the project owner and contractor are aware that the selected BMPs must be installed, monitored, and maintained to ensure their effectiveness.

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- The landowner or the landowner's agent shall sign a statement certifying that the SWPPP and all attachments were prepared under their direction or supervision in accordance with a system designed to ensure compliance with the General Construction Storm Water Permit.

ii. Inspect all construction sites for storm water quality requirements **a minimum of weekly during wet weather period** (1 October to 30 April) and **bi-weekly thereafter**. The local SWPPP shall be reviewed for compliance with local codes, ordinances, and permits. For inspected sites that have not adequately implemented their local SWPPP, a follow-up inspection to ensure compliance will take place within three days. If compliance has not been attained, the Permittee will take additional actions to achieve compliance (as specified in the municipal codes). If compliance has not been achieved, and the site is also covered under a statewide general construction storm water permit, each Permittee shall enforce their local ordinance requirements, and if non-compliance continues, the Regional Board shall be notified for further joint enforcement actions.

iii. Require, no later than 10 March 2003, prior to issuing a grading permit for all projects less than five acres requiring coverage under a statewide general construction storm water permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for permit coverage and a certification that a SWPPP has been prepared by the project developer.

d. For sites five acres and greater, each Permittee shall comply with all conditions in Provisions 10.b and 10.c above and shall:

i. Require, prior to issuing a grading permit for all projects requiring coverage under the state General Permit, proof of a WDID number for filing an NOI for coverage under the General Permit and a certification that a SWPPP has been prepared by the project developer.

ii. Require proof of an NOI and a copy of the SWPPP at any time a transfer of ownership takes place for the entire development or portions of the common plan of development where construction activities are still on-going.

iii. Use an effective system to track grading permits issued by each Permittee. To satisfy this requirement, the use of a database or geographical information system (GIS) is encouraged, but not required.

e. General Permit Violation Referrals

i. Violations of the SWMP and City and County Ordinances

A Permittee may refer a violation(s) to the Regional Board provided that the Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must include documentation of:

- Two follow-up inspections within 3 months, and
- Two warning letters or notices of violation.

ii. Violations of the General Permit Filing Requirements

For those projects subject to the General Permit, the Permittees shall refer non-filers (i.e., those projects which cannot demonstrate that they have a WDID number) to the Regional Board, within seven days of making a determination. In making such referrals, the Permittees shall include, at a minimum, the following documentation:

- Project location;
- Developer;
- Estimated project size; and
- Records of communication with the developer regarding filing requirements.

f. Each Permittee shall train employees in targeted positions (whose jobs or activities are engaged in construction activities including construction inspection staff) regarding the requirements of the storm water management program no later than **1 September 2002**, and annually thereafter.

11. **Industrial/Commercial Program:** Each Permittee shall require implementation of pollutant reduction and control measures at industrial and commercial facilities, with the objective of reducing pollutants in storm water runoff to the MEP. Except as specified in other sections of this Order, pollutant reduction and control measures can be used alone or in combination, and can include Structural and Source Control BMPs, and operation and maintenance procedures, which can be applied before, during, and/or after pollution generating activities. At a minimum, the Industrial/Commercial Program shall include requirements to: (1) track, (2) inspect, and (3) ensure compliance at industrial and commercial facilities that are sources of pollutants in storm water.

a. **Track Pollutant Sources**

i. Each Permittee shall maintain an inventory or database of all facilities within its jurisdiction that are sources of storm water pollution. Sources to be tracked are summarized below:

a) Commercial Facilities
- Restaurants;
- RGOs and automotive dealerships; and
- Automotive service facilities.

b) Facilities Covered Under the General Industrial Permit

c) Other Federally-mandated Facilities [as specified in 40 CFR 122.26(d)(2)(iv)(C)]
- Municipal landfills;
- Hazardous waste treatment, disposal, and recovery facilities; and
- Facilities subject to SARA Title III (also known as EPCRA).

ii. Each Permittee shall include the following minimum fields of information for each industrial and commercial facility:

a) Name and address of facility owner/operator;
b) Coverage under the General Industrial Storm Water Permit or other individual or general NPDES permits; and

c) Narrative description including SIC codes that best reflects the industrial activities at and principal products of each facility.

iii. The Permittees may add other fields of information, such as material usage and/or industrial output, and discrepancies between SIC Code designations (as reported by facility operators) and the actual type of industrial activity has the potential to pollute storm water. In addition, the Permittees may use an automated database system, such as a GIS or Internet-based system.

iv. Each Permittee shall update its inventory of pollutant sources at least annually. The update may be accomplished through collection of new information obtained through field activities or through other readily available intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits, etc.).

b. **Inspect Pollutant Sources**

Each Permittee shall inspect all facilities in the categories and at a level and frequency as specified below.

i. **Commercial Facilities**

a) **Restaurants**

Frequency of Inspections: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than **1 April 2004**, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of inspections: Each Permittee, in cooperation with its appropriate department (such as health or public works), shall inspect all restaurants within its jurisdiction to confirm that storm water BMPs are being effectively implemented in compliance with City and County ordinances, State law, the SWMP, and this Order. At each restaurant, inspectors shall verify that the restaurant operator:

- has received educational materials on storm water pollution prevention practices;
- does not pour oil and grease or oil and grease residue onto a parking lot, street or adjacent catch basin;
- keeps the trash bin area clean and trash bin lids closed, and does not fill trash bins with washwater or any other liquid;
- does not allow illicit discharges, such as discharge of washwater from floor mats, floors, porches, parking lots, alleys, sidewalks, and streets (in the immediate vicinity of the establishment), filters, or garbage/trash containers; and
- removes food waste, rubbish, or other materials from parking lots in a sanitary manner that does not create a nuisance or discharge to the storm drain.

b) **Retail Gasoline Outlets and Automotive Dealerships**

Frequency of Inspection: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than **1 April 2004**, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of Inspection: Each Permittee shall confirm that BMPs are being effectively implemented at each RGO and automotive dealership within its jurisdiction, in compliance with the SWMP and the SQTF Best Management Practice Guide for RGOs. At each RGO and automotive dealership, inspectors shall verify that each operator:

- routinely sweeps fuel-dispensing areas for removal of litter and debris, and keeps rags and absorbents ready for use in case of leaks and spills;
- is aware that washdown of facility area to the storm drain is prohibited;
- is aware of design flaws (such as grading that doesn't prevent run-on, or inadequate roof covers and berms), and that equivalent BMPs are implemented;
- inspects and cleans storm drain inlets and catch basins within each facility's boundaries no later than October 1st of each year;
- posts signs close to fuel dispensers, which warn vehicle owners/operators against "topping off" of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles;
- routinely checks outdoor waste receptacle and air/water supply areas, cleans leaks and drips, and ensures that only watertight waste receptacles are used and that lids are closed; and
- trains employees to properly manage hazardous materials and wastes as well as to implement other storm water pollution prevention practices.

c) **Automotive Service Facilities**

Frequency of Inspections: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than **1 April 2004**, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of inspections: Each Permittee shall inspect all automotive service facilities within its jurisdiction to confirm that storm water BMPs are effectively implemented in compliance with City and County ordinances, the SWMP, and this Order. At each automotive service facility, inspectors shall verify that each operator:

- maintains the facility area so that it is clean and dry and without evidence of excessive staining;
- implements housekeeping BMPs to prevent spills and leaks;
- properly discharges wastewaters to a sanitary sewer and/or contains wastewaters for transfer to a legal point of disposal;
- is aware of the prohibition on discharge of non-storm water to the storm drain;
- properly manages raw and waste materials including proper disposal of hazardous waste;
- protects outdoor work and storage areas to prevent contact of pollutants with rainfall and runoff;
- labels, inspects, and routinely cleans storm drain inlets that are located on the facility's property; and
- trains employees to implement storm water pollution prevention practices.

ii. **General Industrial Permit Facilities**

Permittees need not inspect facilities that have been inspected by the Regional Board within the past six months. For the remaining facilities covered under the General Permit that the Regional Board has not inspected, each Permittee shall conduct compliance inspections as specified below.

a) **Frequency of Inspection**

Priority Industrial Facilities: Annually during the 5-year term of the Order, provided that the first inspection occurs no later than **1 April 2003**.

All Other Facilities: Thrice during the 5-year term of the permit, provided that the first inspection occurs no later than **1 April 2003**. The Permittees need not perform additional inspections at those facilities determined to have no risk of exposure of industrial activity to storm water.

b) **Level of Inspection:**

Each Permittee shall confirm that each operator:

- has a current Waste Discharge Identification (WDID) number for facilities discharging storm water associated with industrial activity, and that a Storm Water Pollution Prevention Plan is available on-site, and
- is effectively implementing BMPs in compliance with City and County ordinances, the SWMP, and this Order.

iii. **Other Federally-mandated Facilities**

a) **Frequency of Inspection:** Thrice during the 5-year term of the Order, provided that the first inspection occurs no later than **1 April 2003**, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

b) **Level of Inspection:** Each Permittee shall confirm that each operator:

- has a current Waste Discharge Identification (WDID) number for facilities discharging storm water associated with industrial activity, and that a Storm Water Pollution Prevention Plan is available on-site, and

- is effectively implementing BMPs in compliance with City and County ordinances, the SWMP, and this Order.

c. **Ensure Compliance of Pollutant Sources**

i. **BMP Implementation:** In the event that a Permittee determines that a BMP specified by the SWMP is infeasible at any site, the Permittee shall require implementation of other BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. In addition, for those BMPs that are not adequate to achieve water quality objectives, the Permittees may require additional site-specific controls, such as Source Control BMPs.

ii. **Progressive Enforcement:** Each Permittee shall implement a progressive enforcement policy to ensure that facilities are brought into compliance with all storm water requirements within a reasonable period as specified below:

a) In the event that a Permittee determines, based on an inspection conducted above, that an operator has failed to adequately implement all necessary BMPs, the Permittee shall take progressive enforcement action which, at a minimum, shall include a follow-up inspection within a four weeks from the date of the initial inspection.

b) In the event that a Permittee determines that an operator has failed to adequately implement BMPs after a follow-up inspection, the Permittee shall take further enforcement action as established through authority in its municipal code and ordinances or through the judicial system.

c) Each Permittee shall maintain records, including inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating a good faith effort to bring facilities into compliance.

iii. **Interagency Coordination**

a) **Referral of Violations of this Order, the SWMP, and City and County Storm Water Ordinances:** A Permittee may refer a violation(s) to the Regional Board provided that that Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must include documentation of:

- Two follow-up inspections, and
- Two warning letters or notices of violation.

b) **Referral of Violations of the General Industrial Activity Storm Water Permit, including Requirements to File a Notice of Intent:** For those facilities in violation of the General Permit, the Permittees may escalate referral of such violations to the Regional Board after one inspection and one written notice to the operator regarding the violation. In making such referrals, the Permittees shall include, at a minimum, the following documentation:

- Name of the facility;
- Operator of the facility;
- Owner of the facility;
- Industrial activity being conducted at the facility that is subject to the General Permit; and
- Records of communication with the facility operator regarding the violation, which shall include at least an inspection report and one written notice of the violation.

The Permittees shall, at a minimum, make such referrals on a quarterly basis.

c) **Investigation of Complaints Regarding Facilities – Transmitted by the Regional Board Staff:** Each Permittee shall initiate, within one business day, investigation of complaints (other than non-storm water discharges) regarding facilities within its jurisdiction. The initial investigation shall include, at a minimum, a limited inspection of the facility to confirm the complaint to determine if the facility is effectively complying with this Order, the SWMP and City and County storm water/urban runoff ordinances, and to oversee corrective action.

d) **Support of Regional Board Enforcement Actions:** The Permittees shall support Regional Board enforcement actions by: assisting in identification of current owners, operators, and lessees of facilities; providing staff, when available, for joint inspections with Regional Board inspectors; appearing as witnesses in Regional Board enforcement hearings; and providing copies of inspection reports and other progressive enforcement documentation.

e) **Participation in a Task Force:** The Permittees, Regional Board, and other stakeholders may form a Storm Water Task Force, the purpose of which is to communicate concerns regarding special cases of storm water violations by industrial and commercial facilities and to develop a coordinated approach to enforcement action.

12. **Municipal Program**

a. **Components:** Each Permittee shall implement a Municipal Program to prevent or reduce pollutants in runoff from all municipal land use areas, facilities, and activities. At a minimum the Municipal Program shall consist of:

i. Sewage System Maintenance, Overflow, and Spill Prevention
ii. Public Construction Activities Management
iii. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management
iv. Landscape and Recreational Facilities Management
v. Storm Drain Operation and Management
vi. Streets and Roads Maintenance
vii. Parking Facilities Management
viii. Public Industrial Activities Management
ix. Emergency Procedures

x. Treatment Feasibility Study

b. **Discussion of Components**

i. **Sewage System Maintenance, Overflow, and Spill Prevention**

a) Within their respective jurisdictions, each Permittee shall implement a response plan for overflows of the sanitary sewer system which shall consist at a minimum of the following:
   i) Investigation of any complaints received;
   ii) Upon notification, immediate response to overflows for containment; and
   iii) Notification to appropriate sewer and public health agencies when a sewer overflows to the MS4.

b) In addition to b.i.a)i) through b.i.a)iii) above, for those Permittees, which own and/or operate a sanitary sewer system, the Permittee shall also implement the following requirements:
   i) Procedures to prevent sewage spills or leaks from entering the MS4; and
   ii) Identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4.

ii. **Public Construction Activities Management**

a) Each Permittee shall implement the Development Standard requirements at public construction projects.

b) Each Permittee shall implement the Construction Program requirements at Permittee owned construction sites.

c) Each Permittee shall obtain coverage under the General Permit for construction activity for public construction sites five acres or greater (or part of a larger area of development).

d) By **10 March 2003**, each Permittee shall obtain coverage under a statewide general construction storm water permit for public construction sites for projects between one and five acres.

T e n t a t i v e

iii. **Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management**

a) Each Permittee, consistent with the SWMP, shall implement SWPPPs for public vehicle maintenance facilities, material storage facilities, and corporation yards which have the potential to discharge pollutants into storm water.

b) Each Permittee shall implement BMPs to minimize pollutant discharges in storm water including but not be limited to:
   i) Good housekeeping practices;
   ii) Material storage control;
   iii) Vehicle leaks and spill control; and
   iv) Illicit discharge control.

c) Each Permittee shall implement the following measures to prevent the discharge of pollutants to the MS4:

   i) For existing facilities that are not already plumbed to the sanitary sewer, all vehicle and equipment wash areas (except for fire stations) shall either be:

      - Self-contained;
      - Equipped with a clarifier;
      - Equipped with an alternative pre-treatment device; or
      - Plumbed to the sanitary sewer.

   ii) For new facilities, or during redevelopment of existing facilities (including fire stations), all vehicle and equipment wash areas shall be plumbed to the sanitary sewer and be equipped with a pre-treatment device in accordance with requirements of the sewer agency.

iv. **Landscape and Recreational Facilities Management**

Each Permittee shall implement the following requirements:

a) A standardized protocol for routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers;

b) Consistency with the State Board's guidelines and monitoring requirements for application of aquatic pesticides to surface waters (WQ Order No. 2001-12 DWQ);

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c) Ensure no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied;

d) Ensure no application or storage of banned or unregistered;

e) Ensure that staff applying pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator;

f) Implement procedures to 1) encourage retention and planting of native vegetation and 2) to reduce water, fertilizer, and pesticide needs;

g) Store fertilizers and pesticides indoors or under cover on paved surfaces or use secondary containment;

h) Reduce the use, storage, and handling of hazardous materials to reduce the potential for spills; and

i) Regularly inspect storage areas.

v. **Storm Drain Operation and Management**

a) Each Permittee shall designate catch basin inlets within its jurisdiction as one of the following:

- Priority A: Catch basins that are designated as consistently generating the highest volumes of trash and/or debris.
- Priority B: Catch basins that are designated as consistently generating moderate volumes of trash and/or debris.
- Priority C: Catch basins that are designated as generating low volumes of trash and/or debris.

b) By **1 April 2003**, each Permittee shall prioritize and label all catch basins within its jurisdiction.

c) The Permittees shall clean their catch basins according to the following schedule:

T e n t a t i v e

- Priority A: A minimum of three times during the wet season and once during the dry season every year.
- Priority B: A minimum of once during the wet season and once during the dry season every year.
- Priority C: A minimum of once per year.

In addition to the schedule above, between **1 July 2002 and 1 April 2003**, the Permittees shall ensure that any catch basin that is at least 40% full of trash and/or debris shall be cleaned out. After **1 April 2003**, the Permittees shall ensure that any catch basin that is at least 25% full of trash and debris shall be cleaned out.

d) For any special event that can be reasonably expected to generate substantial quantities of trash and litter, include provisions that require for the proper management of trash and litter generated, as a condition of the special use permit issued for that event. At a minimum, the municipality who issues the permit for the special event shall arrange for either temporary screens to be placed on catch basins or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain event.

e) Each Permittee shall inspect the legibility of the catch basin stencil or label nearest the inlet. Catch basins with illegible stencils shall be recorded and re-stenciled or re-labeled within 180 days of inspection.

f) Each Permittee shall keep records of catch basins cleaned and maintained.

g) Each Permittee shall implement BMPs for Storm Drain Maintenance that include:

i) A program to visually monitor Permittee-owned open channels and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection;

ii) A review of current maintenance activities to ensure that appropriate storm water BMPs are being utilized to protect water quality;

iii) Removal of trash and debris from open channel storm drains shall occur a minimum of once per year before the storm season;

iv) Minimize the discharge of contaminants during MS4 maintenance and clean outs;

v) Proper disposal of material removed; and

vi) Record keeping of open channels and other drainage structures cleaned and maintained.

vi. **Streets and Roads Maintenance**

a) Each Permittee shall designate streets and/or street segments within its jurisdiction as one of the following:

Priority A: Streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or debris.

Priority B: Streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or debris.

Priority C: Streets and/or street segments that are designated as generating low volumes of trash and/or debris.

b) Each Permittee shall perform street sweeping of curbed streets according to the following schedule:

Priority A: These streets and/or street segments shall be swept at least two times per month.

Priority B: Each Permittee shall ensure that each street and/or street segments is swept at least once per month.

Priority C: These streets and/or street segments shall be swept as necessary but in no case less than once per year.

c) Each Permittee shall require that:

i) Sawcutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain;

ii) Concrete and other street and road maintenance materials and wastes shall be managed to prevent discharge to the MS4; and

iii) The washout of concrete trucks and chutes shall only occur in designated areas and never discharged to storm drains, open ditches, streets, or catch basins.

d) By **1 September 2002**, each Permittee shall train its employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program as follows:

i) Promote a clear understanding of the potential for maintenance activities to pollute storm water; and
ii) Identify and select appropriate BMPs.

Training shall be completed by **1 April 2003**.

vii. **Parking Facilities Management**

Permittee-owned parking lots exposed to storm water shall be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. In no case shall a Permittee-owned parking lot be cleaned less than once a month.

viii. **Public Industrial Activities Management**

Each Permittee shall, for any municipal activity considered a discharge of storm water associated with industrial activity, obtain separate coverage under the General Industrial Activity Storm Water Permit.

ix. **Emergency Procedures**

Each Permittee shall repair essential public services and infrastructure in a manner to minimize environmental damage in emergency situations such as earthquakes, fires, floods, landslides, or windstorms. BMPs shall be implemented to the extent that measures do not compromise public health

and safety. After initial emergency response or emergency repair activities have been completed, each Permittee shall implement BMPs and programs as required under this Order.

x. **Treatment Feasibility Study**

The Permittees shall conduct a study to investigate the possible diversion of dry weather discharges or the use of alternative Treatment Control BMPs to treat flows from their jurisdiction which may impact public health and safety and/or the environment. The Permittees shall collectively review their individual prioritized lists and create a watershed based priority list of drains for potential diversion or treatment and submit the priority listing to the Regional Board by **1 September 2003**.

13. **Illicit Discharge Detection and Elimination Program**

a. **General:** Each Permittee shall implement an Illicit Discharge Detection and Elimination Program containing measures to actively seek and eliminate illicit discharges and connections. At a minimum the Illicit Discharge Detection and Elimination Component shall address:

i. Dry Weather Analytical Monitoring
ii. Investigation/Inspection and Follow-up Procedures
iii. Elimination of Illicit Discharges and Connections
iv. Enforcement of Ordinance
v. Prevention and Response Procedures to Sewage Spills (including from private laterals) and Other Spills
vi. Public Reporting of Illicit Discharges and Connections – Public Hotline
vii. Appropriate Disposal of Used Oil and Toxic Materials
viii. Prevention of Infiltration from Sanitary Sewer to MS4s.

b. **Tracking:** By **1 September 2003**, the Permittees shall develop and maintain a listing of all permitted connections to their storm drain system, map using a convenient scale and in a format that is easily discernible all illicit connections and discharges on their baseline maps, and provide this information in the Annual Report. The Permittees shall use this information to start an annual evaluation of patterns and trends of illicit connections and illicit discharges, with the objectives of identifying priority areas for elimination of illicit connections and illicit discharges.

c. **Training:** By **1 April 2003**, the Permittees shall train all their targeted employees who are responsible for identification, investigation, termination, cleanup, and reporting of illicit connections and discharges.

d. **Illicit Connections**

i. Screening for Illicit Connections

a) Field Screening: The Permittees shall field screen the storm drain system for illicit connections in accordance with the following schedule:
   i) Open channels: No later than 1 September 2003;
   ii) Underground pipes in priority areas: No later than **1 April 2005**; and
   iii) Underground pipes with a diameter of 36 inches or greater: No later than **1 April 2006**.

b) Permit Screening: By **1 September 2006**, the Permittees shall complete a review of all permitted connections to the storm drain system, to confirm compliance with the **Discharge Prohibitions**.

The Permittees shall maintain a list containing all permitted connections and the status of connections under investigation for possible illicit connection.

ii. Response to Illicit Connections

a) Investigation: Upon discovery or upon receiving a report of a suspected illicit connection, the Permittees shall initiate an investigation within 21 days, to determine the source of the connection, the nature and volume of discharge through the connection, and the responsible party for the connection.

b) Termination: Upon confirmation of the illicit nature of a storm drain connection, the Permittees shall ensure termination of the connection within 180 days, using enforcement authority as needed.

e. **Illicit Discharges**

i. Abatement and Cleanup: The Permittees shall respond, within one business day of discovery or a report of a suspected illicit discharge, with activities to abate, contain, and clean up all illicit discharges, including hazardous substances.

ii. Investigation: The Permittees shall investigate illicit discharges as soon as practicable (during or immediately following containment and cleanup activities), and shall take enforcement action as appropriate.

14. **Public Outreach and Public Education (Collectively Public Outreach Program):** Each Permittee shall implement a Public Outreach Program using all media as appropriate to (1) measurably increase the knowledge of target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience; and (2) to change the behavior of target communities and thereby reduce pollutant releases to MS4s and the environment. Each Permittee shall incorporate a mechanism for **public participation** in the implementation of the SWMP (i.e., programs that engage the public in cleaning up creeks, removal of litter in river embankments, stenciling of storm drains, etc.). To meet the SWMP objectives and requirements of this Order, at a minimum, the Public Outreach Program shall do the following:

    a. By **1 September 2002**, each Permittee shall establish a **HOTLINE** that will serve as the general public reporting contact for reporting clogged catch basin inlets and illicit discharges/dumping, faded or lack of catch basin stencils, and general storm water management information. Each Permittee shall include this information, updated when necessary, in public information, and the government pages of the telephone book, as they are developed/published.

    b. By **1 April 2003**, each Permittee shall implement a Public Outreach Program program which must have the following components:

        i. Advertising;
        ii. Media relations;
        iii. Public service announcements;
        iv. "How To" instructional material distributed in a targeted and activity-related manner;
        v. Business, community association, environmental organization, and entertainment industry tie-ins; and
        vi. Events targeted to specific activities and population subgroups.

    c. Address the following target communities:

        i. Municipal Departments and Personnel
        ii. Construction Site Owners and Developers
        iii. Industrial/Commercial Owners and Operators
        iv. General Public, and School Children;
        v. Quasi-Governmental Agencies/Districts (i.e., educational institutions, water districts, sanitation districts, etc.); and
        vi. Residential Community - Activities that must be addressed include:
            a) Automobile repair and maintenance;
            b) Automobile washing;
            c) Automobile parking;

d) Home and garden care activities and product use (pesticides, herbicides, and fertilizers);
e) Disposal of household hazardous waste (e.g., paints, cleaning products);
f) Disposal of pet waste;
g) Disposal of green waste;
h) Any other residential source that the Permittees determine may contribute a significant pollutant load to the municipal separate storm sewer system; and
i) Any residence tributary to a CWA section 303(d) impaired water body or other environmentally sensitive areas.

d. Based on approximately 230,000 residents in the Stockton Urbanized Area and 3-3.5 impressions per resident, the Permittees shall ensure that a minimum of 800,000 impressions per year are made on the general public about storm water quality via print, local TV access, local radio, or other appropriate media.

e. Provide schools within each school district in the Stockton Urbanized Area with materials, including, but not limited to, videos, live presentations, and other information necessary to educate a minimum of 50 percent of all school children (K-12) every two years on storm water pollution.

f. Develop and implement a Business Outreach program to educate and inform business owners and operators about storm water regulations, with emphasis on RGOs and restaurant chains. At a minimum, this program shall include:

i. Conferring with owners and operators to explain storm water regulations;

ii. Distribution and discussion of educational materials regarding storm water pollution and BMPs, and providing owners and operators with suggestions to facilitate employee compliance with storm water regulations.

Business Outreach for all RGOs and restaurant chains shall be conducted not less than twice during the permit term, with the first outreach contact to begin no later than **1 April 2003**.

g. To ensure that the Public Outreach Program is demonstrably effective in changing the behavior of the public, the Permittees shall develop a behavioral change assessment strategy by **1 April 2003**. The strategy shall be developed based on sociological data and studies such as the Los Angeles County Segmentation Study. The Permittees shall submit the assessment strategy to the Regional Board Executive Officer for approval.

15. **Monitoring Plan:** The Permittees shall comply with Monitoring and Reporting Program No. R5-2002-XXX, which is part of this Order, and any revisions thereto approved by the Board. Because the Permittees operate facilities which discharge waste subject to this Order, this Monitoring and Reporting Program is necessary to ensure compliance with these waste discharge requirements.

16. **Fiscal Analysis:** Each Permittee shall **secure the resources** necessary to meet the requirements of this Order and shall prepare an annual fiscal summary as part of the SWMP Annual Report. This summary shall, for each fiscal year covered by this Order, identify the expenditures necessary to accomplish the activities of the SWMP. Such summary shall include a description of the source(s) of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.

17. **Performance and Effectiveness Evaluation:** The Permittees shall assess the effectiveness of their SWMP in their Annual Reports. The assessment shall address specific direct and indirect measurements that the Permittees will use to track the long-term progress of their SWMP towards achieving improvements in receiving water quality. Direct and indirect measures of effectiveness shall include, but are not limited to, conformance with established Performance Standards, quantitative monitoring to assess the effectiveness of control measures, measurements or estimates of pollutant load reductions or increases, detailed accounting of SWMP accomplishments, and funds expended or staff hours utilized. Methods to improve effectiveness in the implementation of tasks and activities including development of new, or modification of existing BMPs and Performance Standards, shall be identified through the SWMP effectiveness evaluation. Annual Reports shall also include each Permittee's self-assessment of its "status of compliance" with each component of the SWMP and this Order.

Water Quality Based Programs

18. The Permittees shall implement a **water quality based control program** for pollutants of concern that have a reasonable potential to cause or contribute to exceedances of water quality standards. These control programs shall include the following:

    a. To address pesticide impairment of urban streams, the Permittees shall implement a pesticide toxicity control plan (**Pesticide Plan**) that addresses their own use of pesticides including diazinon and chlorpyrifos, and the use of such pesticides by other sources within their jurisdictions. The Permittees may address this requirement by building upon their prior submissions to the Regional Board. They may also coordinate with other interested agencies and organizations.

The Pesticide Plan shall include a program to quantitatively identify each Permittee's pesticide use by preparing a periodically updated inventory of pesticides used by all internal departments, divisions, and other operational units as applicable to each Permittee. The Pesticide Plan shall include goals and actions to replace pesticide use (especially diazinon use) with less toxic alternatives. The Permittees shall adopt and implement policies, procedures, and/or ordinances requiring the minimization of pesticide use and the use of Integrated Pest Management (IPM) techniques in the Permittees' operations. The Permittees shall ensure that all municipal employees who apply pesticides in the permitted area receive annual training and be under the supervision of a certified pesticide applicator. The training shall address pesticide-related surface water toxicity, proper use and disposal of such pesticides, and less toxic methods of pest prevention and control, including IPM. The Pesticide Plan shall also be subject to updates via the Permittees' continuous improvement process. To address other pesticide users within the Permittees' jurisdictions, the Pesticide Plan shall include the following elements:

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i. Public education and outreach programs. Such programs shall be designed for residential and commercial pesticide users and pest control operators. These programs shall be developed in coordination with the County Agriculture Commission and Extension Service and provide targeted information concerning proper pesticide use and disposal, potential adverse impacts on water quality, and alternative, less toxic methods of pest prevention and control, including IPM. These programs shall also target pesticide retailers to facilitate point-of-sale public outreach efforts. These programs may also recognize local less toxic pest management practitioners.

ii. Coordination with household hazardous waste collection agencies. The Permittees shall support, enhance, and help publicize programs for proper pesticide disposal.

iii. Periodic surveys of residential and commercial pest control products that could potentially be found in storm water. The first survey shall be conducted by **1 April 2003**.

iv. The Pesticide Plan shall be submitted to the Executive Officer by **1 April 2003**, as part of the FY 2003-2004 Annual Work Plan, and shall include a time schedule for implementation and a mechanism for reviewing and amending the plan, as necessary.

The Permittees shall work with the pesticide control stakeholders and other municipal storm water management agencies to assess which pesticide products and uses pose the least risks to surface water quality.

When applicable, such products will be incorporated into the Pesticide Plan. The Permittees shall also work with the Regional Board and other agencies in developing a TMDL for pesticides in impaired urban creeks and other tributaries to the Stockton Deep Water Channel and the San Joaquin River. The Permittees will participate in stakeholder forums and collaborative technical studies necessary to assist the Regional Board in completing the TMDL. These studies may include, but shall not be limited to, additional diazinon monitoring and toxicity testing in Mosher Slough, Five Mile Slough, Stockton Deep Water Channel, and San Joaquin River.

b. The Permittees shall implement a pathogen pollution prevention plan (**Pathogens Plan**) which includes the following:

   i. Identification of areas and/or activities, which contribute to high pathogen concentrations in storm water, such as unsewered areas within the Stockton Urbanized Area, illegal camping areas along stream sides without domestic waste disposal facilities, or direct discharges from the existing collection system due to sanitary sewer system overflow or blockage;

   ii. Identification, development, and implementation of BMPs to control discharges of pathogens to storm sewers to the MEP; and

   iii. Development and adoption of policies, procedures, and/or ordinances to implement the Pathogens Plan;

   The Pathogens Plan shall be submitted to the Executive Officer by **1 April 2003** as part of the FY 2003-2004 Annual Work Plan. The Pathogens Plan shall include a schedule for implementation and assessment.

c. The Permittees shall implement a low dissolved oxygen prevention plan (**DO Plan**) which includes the following:

   i. Identification of areas and/or activities, which contribute to low DO concentrations in receiving water, such as unsewered areas within the Stockton Urbanized Area, discharges of food wastes and other oxygen demanding substances, or direct discharges from existing collection systems due to sanitary sewer system overflow or blockage;

   ii. Identification, development, and implementation of BMPs to control discharges of oxygen demanding substances to storm sewers to the MEP; and

iii. Development and adoption of policies, procedures, and/or ordinances to implement the DO Plan.

The DO Plan shall be submitted to the Executive Officer by 1 April 2003 as part of the FY 2003-2004 Annual Work Plan. The DO Plan shall include a schedule for implementation and assessment.

d. The Permittees shall conduct an analysis of the **Smith Canal** drainage area to address dissolved oxygen problems.

The Permittees shall submit by **1 April 2003** a Work Plan and schedule acceptable to the Executive Officer for the Smith Canal Water Quality Improvement Program that includes the following elements:

i. Monitoring and modeling analysis required to define the sources of water quality problems within Smith Canal;
ii. Potential source and treatment control BMPs that can be applied within the Smith Canal drainage area;
iii. A program for performing treatment control feasibility studies and for pilot testing future BMP implementation; and
iv. An approach for monitoring BMP performance and assessing water quality trends.

e. **Other Creeks** - Submit a time schedule (for implementation) acceptable to the Executive Officer by **1 April 2003**, as part of the FY 2003-2004 Annual Work Plan, to conduct an assessment (similar to the Smith Canal study) of management practices that are currently being implemented and additional management practices that will be implemented to prevent or reduce potential sediment impairment in urban creeks, and implement any additional management practices necessary to prevent or reduce sediment impairment in urban creeks. Such management practices may include but are not limited to: management and/or regular removal of debris and live vegetation from channels; stream bank stabilization projects; road construction, operation, maintenance, and repairs to prevent and control road-related erosion; management of construction related sediment; and management of post-construction sediment from areas of new development or redevelopment.

Development Standards

19. The Permittees shall minimize the short and long-term impacts on receiving water quality from new development and redevelopment. In order to reduce pollutants and runoff flows from **new development and redevelopment** to the MEP, each Permittee shall address the following concepts:

a. Each Permittee shall incorporate water quality and watershed protection principles into planning procedures and policies such as the development standards or requirements to direct land-use decisions and require implementation of consistent water quality protection measures for all development projects. These principles and policies shall be designed to protect natural water bodies, reduce impervious land coverage, slow runoff, and where feasible, maximize opportunities for infiltration of rainwater into soil. Such water quality and watershed protection principles and policies shall consider, at a minimum, the following:

i. Minimize the amount of impervious surfaces and directly connected impervious surfaces in areas of new development and redevelopment and where feasible maximize on-site infiltration of runoff.

ii. Implement pollution prevention methods supplemented by pollutant source controls and treatment. Where practical, use strategies that control the sources of pollutants or constituents (i.e., the point where water initially meets the ground) to minimize the transport of urban runoff and pollutants offsite and into MS4s.

iii. Preserve, and where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones.

iv. Limit disturbances of natural water bodies and natural drainage systems caused by development including roads, highways, and bridges.

v. Use methods available to estimate increases in pollutant loads and flows resulting from projected future development. Require incorporation of structural and non-structural BMPs to mitigate the projected increases in pollutant loads.

vi. Avoid development in areas that are particularly susceptible to erosion and sediment loss; or establish development guidance that protects areas from erosion and sediment loss.

vii. Coordinate with local traffic management programs to reduce pollutants associated with vehicles and increased traffic resulting from development.

viii. Implement source and structural controls as necessary to protect downstream receiving water quality from increased pollutant loads and flows.

ix. Control the post-development peak storm water run-off discharge rates and velocities to maintain or reduce pre-development downstream erosion, and to protect stream habitat.

x. Control pollutant loads that cause violations of receiving water quality standards or that have not been reduced to the MEP.

b. Review each proposed project plan and require measures to ensure that all development will be in compliance with their storm water ordinances, local permits, and all other applicable ordinances and requirements.

20. By **1 September 2002**, each Permittee shall develop and submit for public review and comment, and Regional Board approval a **Development Standards Plan (DSP)** to reduce pollutants and runoff flows from all new development and significant redevelopment projects falling under the priority project categories or locations listed below. To ensure consistency with the applicable portions of State Board Order WQ 2000-11, the DSP shall provide the following information:

a. Description of existing Development Standards, if any, including project categories, BMP requirements and numeric sizing criteria;

b. Comparison of existing development standards to the requirements established under State Board Order WQ 2000-11 and/or other applicable directives; and

c. Description of the proposed modifications to the Development Standards to ensure that, at a minimum, they are consistent with the requirements of State Board Order WQ 2000-11 and applicable policies of the State and Regional Boards.

21. By **1 April 2003**, after approval of the DSP by the Regional Board, each Permittee shall adopt its own local Development Standards and submit the local Development Standards to the Regional Board for review. By **1 September 2003**, each Permittee shall submit to the Regional Board a copy of the amended ordinance for the Regional Board to determine if the amended ordinance is consistent with the approved DSP. If the amended ordinance is not consistent with the approved DSP, the Regional Board shall inform the Permittee.

22. Immediately following adoption of its local Development Standards, each Permittee shall ensure that all new development and significant redevelopment projects falling under the priority project categories listed below meet Development Standards. The Development Standards shall apply to all priority projects or phases of priority projects which do not have the following: approval by the City or County Engineer, permit for development or construction, or an approved tentative map.

a. Priority Development Project Categories – Development Standards requirements shall apply to all new development and significant redevelopment projects falling under the priority project categories or locations listed below. Significant redevelopment is defined as the creation or addition of at least 5,000 square feet of impervious surfaces on an already developed site. Significant redevelopment includes, but is not limited to expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces. Where significant redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to Development Standards, the numeric sizing criteria discussed below applies only to the addition, and not to the entire development.

   i. Home subdivisions of 10 housing units or more. This category includes single-family homes, multi-family homes, condominiums, and apartments.

   ii. Commercial developments greater than 100,000 square feet. This category is defined as any development on private land that is not for heavy industrial or residential uses where the land area for development is greater than 100,000 square feet. The category includes, but is not limited to hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, commercial nurseries, multi-apartment buildings, car wash facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses, and other light industrial facilities.

   iii. Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539, where the total impervious area for development is greater than 5,000 square feet.

   iv. Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the total impervious area for development is greater than 5,000 square feet.

   v. Parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to urban runoff. Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.

vi. Street and roads. This category includes any paved surface in excess of one acre of impervious area used for the transportation of automobiles, trucks, motorcycles, and other vehicles.

vii. Retail Gasoline Outlets. Retail Gasoline Outlet is defined as any facility engaged in selling gasoline with 5,000 square feet or more of impervious surface area. At a minimum, each Permittee shall require the use of BMPs, such as dry cleaning methods (e.g., sweeping) and other BMPs listed in the California Storm Water Quality Task Force, March 1997, BMP Guide for Retail Gasoline Outlets.

b. BMP Requirements – The Development Standards shall include a list of recommended pollution prevention, source control, and structural treatment BMPs. The Development Standards shall require all new development and significant redevelopment projects falling under the above priority project categories or locations to implement a combination of BMPs selected from the recommended BMP list, including at a minimum (1) source control BMPs and (2) structural treatment BMPs.

c. Numeric Sizing Criteria – The Development Standards shall require structural treatment BMPs to be implemented for all priority development projects. In addition to meeting the BMP requirements listed above, all structural treatment BMPs for a single priority development project shall be sized collectively to comply with either the volume-based or flow-based numeric sizing criteria:

i. Volume-based BMPs shall be designed to mitigate (infiltrate, filter, or treat) either:

a) The volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the local historical rainfall record; or

b) The volume of runoff produced by the 85th percentile 24-hour rainfall event, determined as the maximized capture storm water volume for the area, from the formula recommended in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998); or

c) The volume of annual runoff based on unit basin storage volume, to achieve 80% or more volume treatment by the method recommended in California Storm Water Best Management Practices Handbook – Industrial/Commercial, (1993).

ii. Flow-based BMPs shall be designed to mitigate (infiltrate, filter, or treat) either:

a) The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two; or

b) The maximum flow rate of runoff, as determined from local historical rainfall records, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile hourly rainfall intensity multiplied by a factor of two; or,

d. Equivalent Numeric Sizing Criteria - Each Permittee may develop any equivalent numeric sizing criteria or performance-based standard for post-construction structural treatment BMPs as part of the Development Standards. Such equivalent sizing criteria may be authorized for use in place of the above criteria. In the absence of development and subsequent authorization of such equivalent numeric sizing criteria, the above numeric sizing criteria requirement shall be implemented.

e. Pollutants and Activities of Concern – As part of the Development Standards, each Permittee shall identify pollutants and/or activities of concern for each new development or significant redevelopment project. The Permittees shall identify the pollutants of concern by considering the following (1) receiving water quality, including pollutants for which receiving waters are listed as impaired under CWA Section 303(d); (2) land use type of the development project and pollutants associated with that land use type; (3) pollutants expected to be present on site at concentrations that pose potential water quality concerns; and (4) changes in flow rates and volumes resulting from the development project and sensitivity of receiving waters to changes in flow rates and volumes.

f. Implementation Process – As part of the Development Standards, each Permittee shall develop a process by which Development Standards will be implemented. The process shall identify at what point in the planning process development projects will be required to meet Development Standards. The process shall also include identification of the roles and responsibilities of various municipal departments in implementing the Development Standards, as well as any other measures necessary for the implementation of Development Standards.

g. Restaurants Less than 5,000 Square Feet - New development and significant redevelopment restaurant projects where the land area development is less than 5,000 square feet shall meet all Development Standards except for structural treatment BMP and numeric sizing criteria requirement above.

h. Infiltration and Groundwater Protection – To protect groundwater quality, each Permittee shall consider the type of development and resulting storm water discharge and, if appropriate, apply restrictions to the use of structural BMPs, which are designed to primarily function as infiltration devices (such as infiltration trenches and infiltration basins).

i. Downstream Erosion – As part of the model Development Standards, the Permittees shall update any existing criteria for new development and significant redevelopment to ensure that discharges from design storms, as defined by the Permittees, maintain or reduce pre-development downstream erosion and protect stream habitat. At a minimum, criteria shall be developed to control peak storm water discharge rates and velocities in order to maintain or reduce pre-development downstream erosion and protect stream habitat. Storm water discharge volumes and durations should also be considered.

j. Regional Storm Water Mitigation Program – A Permittee(s) may use regional or sub-regional storm water mitigation programs to substitute in part or whole for Development Standards for new development and redevelopment.

23. **Maintenance Agreement and Transfer**

Each Permittee shall require that all developments subject to Development Standards and site specific plan requirements provide verification of maintenance provisions for Structural and Treatment Control BMPs, including but not limited to legal agreements, covenants, California Environmental Quality Act (CEQA) mitigation requirements, and or conditional use permits. Verification at a minimum shall include:

a. The developer's signed statement accepting responsibility for maintenance until the responsibility is legally transferred; and either

b. A signed statement from the public entity assuming responsibility for Structural or Treatment Control BMP maintenance and that it meets all local agency design standards; or

c. Written conditions in the sales or lease agreement, which requires the recipient to assume responsibility for maintenance and conduct a maintenance inspection at least once a year; or

d. Written text in project conditions, covenants and restrictions for residential properties assigning maintenance responsibilities to the Home Owners Association for maintenance of the Structural and Treatment Control BMPs; or

e. Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction Structural or Treatment Control BMPs.

24. **Regional Storm Water Mitigation Program**

A Permittee may apply to the Regional Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly Development Standard requirements. Upon review and a determination by the Regional Board Executive Officer that the proposal is technically valid and appropriate, the Regional Board may consider for approval such a program if its implementation will:

a. Result in equivalent or improved storm water quality;
b. Protect stream habitat;
c. Promote cooperative problem solving by diverse interests;
d. Be fiscally sustainable and has secure funding; and
e. Be completed in five years including the construction and start-up of treatment facilities.

Nothing in this provision shall be construed as to delay the implementation of Development Standard requirements, as approved in this Order.

25. **Mitigation Funding**

The Permittees may propose a management framework, for endorsement by the Regional Board Executive Officer, to support regional or sub-regional solutions to storm water pollution, where any of the following situations occur:

a. A waiver for impracticability is granted;
b. Legislative funds become available;
c. Off-site mitigation is required because of loss of environmental habitat; or
d. An approved watershed management plan or a regional storm water mitigation plan exists that incorporates an equivalent or improved strategy for storm water mitigation.

26. **California Environmental Quality Act (CEQA) Document Update**

Each Permittee shall incorporate into its CEQA process, with immediate effect, procedures for considering potential storm water quality impacts and providing for appropriate mitigation when preparing and reviewing CEQA documents. The procedures shall require consideration of the following:

a. Potential impact of project construction on storm water runoff;
b. Potential impact of project post-construction activity on storm water runoff;
c. Potential for discharge of storm water from areas from material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas;
d. Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit;
e. Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies;
f. Potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm; and
g. Potential for significant increases in erosion of the project site or surrounding areas.

27. **General Plan Update**

a. Each Permittee shall amend, revise, or update its General Plan to include watershed and storm water quality and quantity management considerations and policies when any of the following General Plan elements are updated or amended: (i) Land Use, (ii) Housing, (iii) Conservation, and (iv) Open Space.

b. Each Permittee shall provide the Regional Board with the draft amendment or revision when a listed General Plan element or the General Plan is noticed for comment in accordance with California Government Code § 65350 *et seq*.

28. **Targeted Employee Training**

Each Permittee shall train its employees in targeted positions (whose jobs or activities are engaged in development planning) regarding the development planning requirements on an annual basis beginning no later than **1 September 2002**.

29. **Developer Technical Guidance and Information**

a. Each Permittee shall develop and make available to the developer community Development Standards (development planning) guidelines immediately.

b. By **1 April 2004**, the Permittees shall issue a technical manual for the siting and design of BMPs for the development community in the Stockton Urbanized Area. The technical manual may be adapted from the revised California Storm Water Quality Task Force Best Management Practices Handbooks scheduled for publication in September 2002. The technical manual shall at a minimum include:

i. Treatment Control BMPs based on flow-based and volumetric water quality design criteria for the purposes of consistency in the Stockton Urbanized Area;
ii. Peak Flow Control criteria to control peak discharge rates, velocities and duration;
iii. Expected pollutant removal performance ranges obtained from national databases, technical reports and the scientific literature;
iv. Maintenance considerations; and
v. Cost considerations.

Additional Requirements

30. This Order may be modified, or alternatively, revoked or reissued, prior to the expiration date as follows: a) to address significant changed conditions identified in the technical reports required by the Regional Board which were unknown at the time of the issuance of this Order; b) to incorporate applicable requirements of statewide water quality control plans adopted by the State Board or amendments to the Basin Plan approved by the State Board; or c) to comply with any applicable requirements, guidelines, or regulations issued or approved under Section 402(p) of the CWA, if the requirement, guideline, or regulation so issued or approved contains different conditions or additional requirements not provided for in this Order. The Order as modified or reissued under this paragraph shall also contain any other requirement of the CWA when applicable.

31. Each Permittee shall comply with all applicable items of the "Standard Provisions and Monitoring Requirements for Waste Discharge Requirements (NPDES)," dated 1 March 1991, which are part of this Order. This attachment and its individual paragraphs are referred to as "Standard Provisions."

32. This Order expires on _____. The Permittees must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of such date as application for re-issuance of waste discharge requirements.

I, GARY M. CARLTON, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Central Valley Region, on _____.

_____
GARY M. CARLTON, Executive Officer

Tentative

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2002-XXX

NPDES NO. CA0083470

MONITORING AND REPORTING PROGRAM

CITY OF STOCKTON
AND
COUNTY OF SAN JOAQUIN
STORM WATER DISCHARGES FROM
MUNICIPAL SEPARATE STORM SEWER SYSTEM
SAN JOAQUIN COUNTY

I. MONITORING PROGRAM REQUIREMENTS

This Monitoring and Reporting Program (MRP) is issued pursuant to Water Code Section 13267. Because the Permittees operate facilities which discharge waste subject to storm water regulations, MRP No. R5-2002-XXX is necessary to ensure compliance with Order No. R5-2002-XXX.

The Permittees shall not implement any changes to this MRP unless and until the Regional Board or Executive Officer issues a revised MRP. Attachment A shows the City of Stockton limits and the San Joaquin County urbanized areas (collectively called Stockton Urbanized Area) which are covered under this Order.

A. **MRP Work Plan:** By **1 September 2002**, each Permittee shall submit an MRP Work Plan that supports the development, implementation, and effectiveness of the approved Storm Water Management Plan (SWMP), and compliance with the maximum extent practicable (MEP) requirement and the receiving water limitations of Order No. R5-2002-XXX.

B. **Annual Report:** The Permittees shall submit, in both electronic and paper formats and no later than **1 September** of each year beginning in year 2003, an Annual Report documenting the progress of the Permittees' implementation of the SWMP and the requirements of Order No. R5-2002-XXX. The Annual Report shall cover each fiscal year from **1 July through 30 June**. The Annual Report shall use the attached form (Attachment B), or create another reporting format that includes all items on the attached form. The status of compliance with permit requirements including implementation dates for all time-specific deadlines should be included for each program area. If permit deadlines are not met, the Permittees shall report the reasons why the requirement was not met and how the requirements will be met in the future, including projected implementation dates. A comparison of program implementation results to performance standards established in the SWMP and Order No. R5-2002-XXX shall be included for each program area. Specific requirements that must be addressed in the Annual Reports are listed below.

1. An Executive Summary discussing the effectiveness of the SWMP to reduce storm water pollution to the MEP.

2. Summary of activities conducted by the Permittees;

3. Identification of BMPs and a discussion of their effectiveness at reducing urban runoff pollutants and flow;

4. Summary of monitoring data, including the identification of water quality improvements or degradation, and recommendations for improvements to the SWMP (including proposed BMPs) based on the monitoring results. All data shall be compared to applicable water quality standards in the Basin Plan, the California Toxics Rule (CTR), and California Title 22 (Title 22);

5. An assessment of compliance with applicable water quality standards for each component of the monitoring program. The assessment shall include the identification of water quality improvements or degradation. The lowest applicable standard from the Basin Plan, CTR, and Title 22 shall be used for comparison. When the data indicate that discharges are causing or contributing to exceedances of applicable water quality standards, a discussion of how Permittees plan to comply with **Provisions 1 and 2** of Order No. R5-2002-XXX shall be included. In addition, the analysis shall identify and prioritize water quality problems. Based on the identification and prioritization of water quality problems, the analysis shall identify potential sources of the problems, and recommend future monitoring and BMP implementation measures to identify and address the sources;

6. Identification and analysis of any long-term trends in storm water or receiving water quality.

7. An estimation of total pollutant loads due to storm water/urban runoff for each sampling station;

8. For each monitoring component, maps of all monitoring station locations and descriptions of each location; and

9. Recommendations to improve the monitoring program, BMPs, Performance Standards, and the SWMP to address water quality exceedances and potential pollutant sources, and to meet the MEP.

C. **Certification:** All work plans and reports submitted to the Regional Board shall be signed and certified pursuant to federal regulations at 40 CFR 122.41 (k). Each report shall contain the following completed declaration:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ___ day of _____ , 20_,

at _____.

(Signature)_____(Title)_____";

The Permittees shall mail the original of each annual report to:

CALIFORNIA REGIONAL WATER QUALITY
CONTROL BOARD – CENTRAL VALLEY REGION
3443 ROUTIER ROAD, SUITE A
SACRAMENTO, CA 95827

A copy of the annual report shall also be mailed to:

REGIONAL ADMINISTRATOR
ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 Hawthorne Street
San Francisco, CA 94105

II. MONITORING PROGRAM

The primary objectives of the Monitoring Program include, but are not limited to:

- Assessing compliance with this Order;
- Measuring and improving the effectiveness of the SWMPs;
- Assessing the chemical, physical, and biological impacts of receiving waters resulting from urban runoff;
- Characterization of storm water discharges;
- Identifying sources of pollutants; and
- Assessing the overall health and evaluating long-term trends in receiving water quality.

Ultimately, the results of the monitoring requirements outlined below should be used to refine the SWMP to reduce pollutant loadings and protect and enhance the beneficial uses of the receiving waters in the Stockton Urbanized Area.

The Permittees shall implement the Monitoring Program as follows:

A. Sampling Protocol

1. Samples from each station described below shall be analyzed for all constituents listed in Table 1. All sample collection and analyses shall follow standard U.S. Environmental Protection Agency (U.S. EPA) protocol.

2. If a constituent is not detected at the method detection limit for its respective test method listed in Table 1 in more than 75 percent of the first 48 sampling events, it need not be further analyzed unless the observed occurrences show concentrations greater than state water quality standards. The Permittees will also conduct annual confirmation sampling for non-detected constituents during the first storm of the wet season every year at each station.

3. Each station shall be sampled and analyzed for total suspended solids (TSS) during all storms events that result in at least 0.25 inch of rainfall. Results shall be used to assess the variability of storm water constituents and provide a more accurate estimate of pollutant loading (pollutant correlation with TSS).

4. The Permittees shall perform an annual analysis, to be included in the Annual Report, of the correlation between pollutants of concern (including but not limited to metals and PAHs) and TSS loadings for the sampling events that are analyzed for the full suite of constituents.

B. **Urban Discharge Monitoring**

Since 1992, the Permittees have been monitoring five drainage basins, shown in Attachment A. Three of these basins are from residential areas. Two of these residential basins, MS-14 and MS-18, are in the same general vicinity and both discharge to Mosher Slough. Due to the similarity of monitoring data from these two residential basins and the fact that they both discharge to the same receiving water, this monitoring program requires monitoring of MS-14 only along Mosher Slough. Samples shall be taken at the following stations: MS-14 (Residential) – Kelley Drive at Mosher Slough; CR-45 (Residential) – Sutter Creek at Calaveras River; CR-46 (Commercial) – West Lane at Calaveras River; and DC-65 (Industrial) – Western Pacific Industrial Park at Duck Creek. Attachment A also shows the approximate locations of the urban discharge sampling stations. If additional sample station locations are needed, they shall be established under the direction of Board staff, and a description of the stations shall be attached to this MRP. Urban discharge monitoring shall be consistent with the frequency and schedule shown on Table 1. Each year, samples shall be collected **during two storm events** and **two during the dry season**.

C. **Receiving Water Monitoring**

All receiving water samples shall be grab samples, collected at mid-depth, in mid-stream of the receiving water. Receiving water sampling may be postponed or eliminated if hazardous weather and/or river flow conditions prevent safe access to sampling location. Receiving water monitoring shall be taken after discharges from MS-14, CR-45, CR-46, and DC-65 have occurred and shall be consistent with the frequency and schedule shown on Table 1. Attachment A shows the approximate locations of the receiving water sampling stations. Each year, samples shall be collected **during two storm events** and **two during the dry season**. Receiving water monitoring shall include at least the following:

Station	Description/Location/Type of Basin
MS-14 R	Mosher Slough @ Kelley Drive, ___ mile west of outfall; Residential
CR-45 R	Calaveras River @ Sutter Street, ___ mile west of outfall; Residential
CR-46 C	Calaveras River @ West Lane, ___ mile west of outfall; Commercial
DC-65 R	Duck Creek @ Western Pacific Industrial Park, ___ mile west of outfall; Industrial

D. **Retention Basin Monitoring**

The Discharger shall submit by **1 April 2003** a work plan to perform influent, effluent, and sediment chemistry monitoring of their detention basins. Monitoring shall be conducted during the second and fourth years of the permit. Monitoring shall be designed to evaluate the effectiveness of the detention basins in removing pollutants.

E. **Water Column Toxicity Monitoring**

The Permittees shall analyze samples to evaluate the extent and causes of toxicity in urban discharges and receiving waters to modify and utilize the SWMP to implement practices that eliminate or reduce sources of toxicity in storm water.

The Permittees shall analyze samples from **two storm events (including the first storm of each year) and two during the dry season** from each Urban Discharge and Receiving Water monitoring station for toxicity every year. A minimum of one freshwater and one marine species shall be used for toxicity testing for each station event. Specifically, *Ceriodaphnia dubia* (water flea) 7-day survival/reproduction and *Strongylocentrotus purpuratus* (sea urchin) fertilization tests shall be used. These tests should include a dilution series (0.5x steps) that ranges from the undiluted sample (or the highest concentration that can be tested within the limitations of the test methods or sample type) to less than or equal to 6% sample.

1. Toxicity Identification Evaluations (TIE)

   The Permittees shall begin a Phase I TIE immediately on all samples that are substantially toxic to either test species.[1] If a sample is substantially toxic to both species, a TIE shall be performed for both species.

2. Toxicity Reduction Evaluations (TRE)

   a. When the same pollutant or class of pollutants is identified through the TIE process as causing at least 50% of the toxic responses in at least 3 samples at a sampling location, a TRE shall be performed for that identified toxic pollutant. The TRE shall include all reasonable steps to identify the source(s) of toxicity and discuss appropriate BMPs to eliminate the causes of toxicity. Once the source of toxicity and appropriate BMPs are identified, the Permittees shall submit the TRE to the Executive Officer for approval.

[1] Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE. Toxic Units are calculated by dividing 100 by the calculated median test response value (e.g., LC50 or EC50). For example, a LC50 of 50% sample equals 2 Toxic Units. Ceriodaphnia TIEs require at least 50% mortality in undiluted sample (1 Toxic Unit) at any time during the 7-day duration of the initial chronic bioassay (SCCWRP).

At a minimum, the TRE shall include a discussion of the following items:

i. The potential sources of pollutant(s) causing toxicity;

ii. A list of Permittees having jurisdiction over sources of pollutant(s) causing toxicity;

iii. Recommended BMPs to reduce the pollutant(s) causing toxicity;

iv. Proposed changes to the SWMP to reduce the pollutant(s) causing toxicity; and

v. Suggested follow-up monitoring to demonstrate that toxicity has been removed.

b. If TRE implementation for a specific pollutant coincides with Total Maximum Daily Load (TMDL) implementation for that pollutant, the efforts may be coordinated.

c. Upon approval by the Executive Officer, the Permittees(s) having jurisdiction over sources causing or contributing to toxicity shall implement the recommended BMPs and take all reasonable steps necessary to eliminate toxicity.

d. The Permittees shall develop a maximum of two TREs per year. If applicable, the Permittees may use the same TRE for the same toxic pollutant or pollutant class in different watersheds or basins. The TRE process shall be coordinated with TMDL development and implementation to avoid overlap.

e. The Permittees shall report on the development, implementation, and results for each TRE in the Annual Reports, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

F. Tributary Monitoring

The Permittees shall monitor tributaries to: (1) Identify sub-watersheds where storm water discharges are causing or contributing to exceedances of water quality standards; and (2) Prioritize drainage and sub-drainage areas that need management actions.

1. The Permittees shall develop and implement a watershed-based tributary monitoring program, in which a minimum of three tributaries per drainage area will be monitored, based on the schedule described below:

a. Monitoring stations shall be rotated so that a minimum of three tributaries will be monitored per year. Each tributary shall be monitored for a minimum period of one year. The three tributaries to be monitored each year shall be proposed by the Permittees in the Annual Work Plan. Any exceedances of water quality standards will be investigated through the preparation of a Report of Water Quality Exceedance as required by Order No. R5-2002-XXX.

If no exceedances of applicable water quality standards occur during one year of monitoring at a single tributary station, the Permittees may move that monitoring station to another tributary, subject to the approval of the Executive Officer.

b. Tributaries with year-round flows that drain urbanized or partially urbanized areas shall be included in the tributary monitoring program. These tributaries and the locations of sampling stations shall be presented on a map in the revised SWMP. Tributaries that are monitored annually as part of the receiving water monitoring program need not be included in the tributary monitoring program.

2. Tributary monitoring shall begin no later than the effective date of Order No. R5-2002-XXX.

3. The Permittees shall monitor the first storm event and at one additional storm event during each storm season. At least two dry weather events per year will also be sampled at each station.

4. Samples shall be flow-weighted composites, collected during the first three hours or for the duration of the storm if it is less than three hours. Samples may be collected manually or automatically. A minimum of three sample aliquots, separated by a minimum of 15 minutes, shall be taken within each hour of discharge[2], unless the Executive Officer approves an alternate protocol. Samples shall be taken just upstream of the tributary's confluence with the mainstream. Constituents to be analyzed for each location shall include the following:

a. pH, dissolved oxygen, temperature, conductivity, and total suspended solids;
b. Indicator bacteria;
c. All priority pollutants (Table 1) for the first storm of the year;

[2] Required in 40 CFR 122.21(g)(7)(ii), and described in NPDES Storm Water Sampling Guidance Document EPA 833-B-92-001. Time-weighted samples may be appropriate if flow is measured during sampling.

d. All constituents for which the water body is impaired downstream of the monitoring station[3];

e. All constituents that caused toxicity or exceeded any applicable water quality criteria at the associated mass emission station the previous year. These constituents shall be listed in the Annual Report.

f. Flow (may be estimated using U.S. EPA methods[4] at sites where flow measurement devices are not in place).

G. **Bioassessment**

The Permittees shall participate and coordinate with the Surface Water Ambient Monitoring Program (SWAMP) being developed by the State Water Resources Control Board (State Board) to complete this requirement. The SWAMP has begun work on a statewide effort to determine how to identify reference sites with the goal of Index of Biological Integrity (IBI) development.

The purpose of this requirement is to detect biological trends in receiving waters and to collect data for the development of an IBI. The ultimate goals of bioassessment are to assess the biological integrity of receiving waters, to detect biological responses to pollution, and to identify probable causes of impairment not detected by chemical and physical water quality analysis.

1. The Permittees shall participate in and coordinate with the SWAMP to identify the most appropriate locations for bioassessment stations within the Stockton Urbanized Area.

2. The Permittees shall propose a bioassessment monitoring program by **1 April 2003**. Sampling shall begin immediately after approval of the sampling stations by the Executive Officer. A minimum of three replicate samples shall be collected at each station during each sampling event.

3. The Permittees shall develop Standard Operation Procedures (SOPs) for the bioassessment monitoring program that describe all procedures and responsible parties. The SOPs must contain step-by-step field, laboratory, data entry, and QA/QC procedures. A copy of the SOPs shall be available to the Executive Officer upon request.

[3] The 1998 California 303(d) List and TMDL Priority Schedule lists pollutants for which each water body is impaired, www.swrcb.ca.gov/tmdl/docs/303dtmdl_98reg5.pdf.

[4] NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001, July 1992

4. Field sampling must conform to the SOPs established for the California Stream Bioassessment Procedure (CSBP)[5] when appropriate. For sampling of aquatic environments where the CSBP is not appropriate (e.g., an estuary or unwadable stream), the California Department of Fish and Game (DFG) and the Executive Officer shall be consulted in order to determine the most appropriate protocol to be implemented. Field crews shall be trained on aspects of the protocol and appropriate safety issues. All field data and sample Chain of Custody (COC) forms must be examined for completion and errors by the field crews, the receiving laboratory, and the Permittees. These forms shall be available to DFG or the Executive Officer upon request.

5. Field inspections should be planned with random visits and should be performed by the Permittees, if properly trained in CSBP methods. A professional environmental laboratory shall perform all laboratory, quality assurance, and analytical procedures.

6. Taxonomic identification laboratories process the biological samples that usually consist of subsampling organisms, enumerating and identifying taxonomic groups and entering the information into an electronic format. There should be intra-laboratory QA/QC results for subsampling, taxonomic validation and corrective actions. Biological laboratories should also maintain reference collections, vouchered specimens (the Permittees can request return of their sample voucher collections) and remnant collections. Biological laboratories shall participate in an inter-laboratory (external) taxonomic validation program at a recommended level of 20% for the first two years of the program. If there are no substantial QA/QC problems, the level of external validation may be decreased to 10% in year three upon approval by the Executive Officer. External QA/QC should be arranged through the DFG's Aquatic Bioassessment Laboratory in Rancho Cordova.

7. Sampling, laboratory, quality assurance, and analysis procedures shall follow the standardized "Non-point Source Bioassessment Sampling Procedures" for professional bioassessment as set forth in the CSBP. The following results and information shall be included in the Annual Report:

    a. All physical, chemical and biological data collected in the assessment;
    b. Photographs and GPS locations of all stations;
    c. Documentation of quality assurance and control procedures;
    d. Analysis that shall include calculation of the metrics used in the CSBP;
    e. Comparison of mean biological and habitat assessment metric values between stations and year-to-year trends;

[5] California Stream Bioassessment Procedure (Protocol Brief for Biological and Physical/Habitat Assessment in Wadable Streams), California Department of Fish and Game - Aquatic Bioassessment Laboratory, May 1999. Located at www.dfg.ca.gov/cabw/protocols.html.

f. Electronic data formatted to the DFG Aquatic Bioassessment Laboratory for inclusion in the Statewide Access Bioassessment Database; and

g. Copies of all QA/AC documents from laboratories.

H. **Water Quality-Based Programs**

1. By **1 April 2003**, the Permittees shall submit the following water quality based programs for approval by the Executive Officer: Dissolved Oxygen Plan, Pathogens, Pesticide Plan, and Other Creeks Monitoring Plan.

2. Pesticide Monitoring, which will be described in more detail as part of the Pesticide Plan of this Order, shall be conducted as part of the receiving water and urban runoff monitoring efforts. The purpose of pesticide monitoring is to:

   a. Monitor trends in the levels of diazinon and chlorpyrifos in all 303(d) listed waters within the Permittees' jurisdictions. Sampling must take place, at a minimum, in one storm event during the dormant spray application season, one storm event following the dormant spray application season, and once during dry season;

   b. Monitor potential sources of diazinon and chlorpyrifos outside residential and commercial land areas, including discharges from agricultural areas and nurseries upstream or within the Permittees' jurisdictional boundaries; and

   c. Monitor toxicity in storm water through the use of bioassay tests. Any toxicity found shall be evaluated by using TIE procedures, or as otherwise appropriate.

III. SPECIAL STUDIES

A. Peak Discharge Impact Study

The Permittees shall conduct a study to determine the extent of erosion of natural stream channels and banks caused by urbanization. If appropriate, the Permittees shall evaluate peak flow control and determine numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by urbanization.[6] The Permittees may partner with the San Joaquin County Flood Control District to expand the stream erosion study to other watersheds in the Stockton Urbanized Area. The Permittees shall submit a work plan by **1 April 2004**.

[6] Order No. R5-2002-XXX (Development Standards) requires the development of numerical criteria for peak flow control in natural drainage systems.

B. BMP Effectiveness Study

The Permittees shall conduct or participate in studies to evaluate the effectiveness of structural and treatment control BMPs. The objective of this study shall include the following:

1. Monitor the reduction of pollutants of concern in storm water including, but not limited to trash, suspended sediment, pathogen indicators, nutrients, heavy metals, and oil and grease from five or more different types of BMPs that have been properly installed within the year preceding monitoring. Monitoring shall be continued until the effectiveness of the BMP can be determined;

2. Evaluate the requirements for and installation and maintenance cost of each BMP; and

3. Develop recommendations for appropriate BMPs for the reduction of pollutants of concern in storm water in the Stockton Urbanized Area.

IV. STANDARD MONITORING PROVISIONS

All monitoring activities shall meet the following requirements:

A. Monitoring and Records [40 CFR 122.41(j)(1)]

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

B. Monitoring and Records [40 CFR 122.41(j)(2)] [California Water Code §13383(a)]

The Permittees shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or U.S. EPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge.

C. Monitoring and Records [40 CFR 122.21(j)(3)]. Records of monitoring information shall include:

1. Date, location, and time of sampling or measurements;
2. Individual(s) who performed the sampling or measurements;
3. Date analyses were performed;
4. Individual(s) who performed the analyses;

5. The analytical techniques or methods used; and
6. Results of such analyses.

D. Monitoring and Records [40 CFR 122.21(j)(4)]

All sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this Order.

E. Monitoring and Records [40 CFR 122.21(j)(5)]

The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by both.

F. All chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by an appropriate governmental regulatory agency.

G. For priority toxic pollutants that are identified in the CTR (65 Fed. Reg. 31682), the MLs published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California - 2000 (SIP) shall be used for all analyses, unless otherwise specified. Appendix 4 of the SIP is included as Table 1. For pollutants not contained in Appendix 4 of the SIP, the test method and method detection limit (MDL) listed in Table 1 shall be used for all analyses, and the ML for these parameters shall be lower than or equal to the lowest applicable water quality criteria from the Basin Plan and/or the Ocean Plan.

H. The Monitoring Report shall specify the analytical method used, the MDL and the ML for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported with one of the following methods, as appropriate:

1. An actual numerical value for sample results greater than or equal to the ML;

2. "Not-detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used; or

3. "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML. The estimated chemical concentration of the sample shall also be reported. This is the concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

I. For priority toxic pollutants, if the Permittees can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the SIP. The Permittees must submit documentation from the laboratory to the Executive Officer for approval prior to raising the ML for any constituent.

J. Monitoring Reports [40 CFR 122.41(I)(4)(ii)]

If the Permittees monitor any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136, unless otherwise specified in the Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Annual Report.

K. Monitoring Reports [40 CFR 122.41(I)(4)(iii)]

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this Order.

L. If no flow occurred during the reporting period, the Monitoring Report shall so state.

M. The Executive Officer or the Regional Board, consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment, either:

1. By petition of the Permittees or by petition of interested parties after the submittal of the Annual Report. Such petition shall be filed not later than 60 days after the Annual Report submittal date, or

2. As deemed necessary by the Executive Officer following notice to the Permittees.

Ordered by _____

GARY M. CARLTON, Executive Officer

_____

Date

TABLE 1
LIST OF CONSTITUENTS AND THEIR MINIMUM LEVELS (MLs)[1]
ORDER NO. R5-2002-XXX
CITY OF STOCKTON AND COUNTY OF SAN JOAQUIN
MUNICIPAL SEPARATE STORM SEWER SYSTEM

CONSTITUENTS	MLs
CONVENTIONAL POLLUTANTS	**mg/l[2]**
Oil and Grease	5
Total Phenols	0.1
Cyanide	0.005
Ph	0 - 14
Temperature	None
Dissolved Oxygen	Sensitivity to 5 mg/L
BACTERIA	
Total coliform	<20 MPN/100ml
Fecal coliform	<20 MPN/100ml
E. coli (fresh waters)	<20 MPN/100ml
GENERAL	**mg/l**
Dissolved Phosphorus	0.05
Total Phosphorus	0.05
Turbidity	0.1NTU
Total Suspended Solids	2
Total Dissolved Solids	2
Volatile Suspended Solids	2
Total Organic Carbon	1
Total Petroleum Hydrocarbon	5
Biochemical Oxygen Demand	2
Chemical Oxygen Demand	20-900
Total Ammonia-Nitrogen	0.1
Total Kjeldahl Nitrogen	0.1
Nitrate-Nitrite	0.1
Alkalinity	2
Specific Conductance	1 µmho/cm
Total Hardness	2
MBAS	0.5
Chloride	2

[1] For Priority Pollutants, the MLs represent the lowest value listed in Appendix 4 of SIP. Method detection limits must be lower than or equal to the ML value. If a particular ML is not attainable in accordance with procedures set forth in 40 Code of Federal Regulations 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure may be used instead.
[2] Milligrams per liter.

CONSTITUENTS	MLs
GENERAL	**mg/l**
Fluoride	0.1
Methyl tertiary butyl ether (MTBE)	1
METALS	**µg/l**[3]
Aluminum	100
Antimony	0.5
Arsenic	1
Beryllium	0.5
Cadmium	0.25
Chromium (total)	0.5
Copper	0.5
Hex. Chromium	5
Iron	100
Lead	0.5
Mercury (total)	1 ng/l[4]
Mercury (methyl)	1 ng/l
Nickel	1
Selenium	1
Silver	0.25
Thallium	1
Zinc	1
SEMI-VOLATILE ORGANIC COMPOUNDS	**µg/l**
Acids	
2-Chlorophenol	2
2, 4-Dichlorophenol	1
2,4-Dimethylphenol	2
2, 4-Dinitrophenol	5
2-Nitrophenol	10
4-Nitrophenol	5
4-Chloro-3-methylphenol	1
Pentachlorophenol	2
Phenol	1
2,4,6-Trichlorophenol	10

[3] Micrograms per liter
[4] Nanograms per liter

CONSTITUENTS	MLs
Base/Neutral	**µg/l**
Acenaphthene	1
Acenaphthylene	2
Anthracene	2
Benzidine	5
1,2 Benzanthracene	5
Benzo(a)pyrene	2
Benzo(g,h,i)perylene	5
3,4 Benzoflouranthene	10
Benzo(k)flouranthene	2
Bis(2-Chloroethoxy) methane	5
Bis(2-Chloroisopropyl) ether	2
Bis(2-Chloroethyl) ether	1
Bis(2-Ethylhexl) phthalate	5
4-Bromophenyl phenyl ether	5
Butyl benzyl phthalate	10
2-Chloroethyl vinyl ether	1
2-Chloronaphthalene	10
4-Chlorophenyl phenyl ether	5
Chrysene	5
Dibenzo(a,h)anthracene	0.1
1,3-Dichlorobenzene	1
1,4-Dichlorobenzene	1
1,2-Dichlorobenzene	1
3,3-Dichlorobenzidine	5
Diethyl phthalate	2
Dimethyl phthalate	2
di-n-Butyl phthalate	10
2,4-Dinitrotoluene	5
2,6-Dinitrotoluene	5
4,6 Dinitro-2-methylphenol	5
1,2-Diphenylhydrazine	1
di-n-Octyl phthalate	10
Fluoranthene	0.05
Fluorene	0.1
Hexachlorobenzene	1
Hexachlorobutadiene	1
Hexachloro-cyclopentadiene	5
Hexachloroethane	1

CONSTITUENTS	MLs
Base/Neutral	**µg/l**
Indeno(1,2,3-cd)pyrene	0.05
Isophorone	1
Naphthalene	0.2
Nitrobenzene	1
N-Nitroso-dimethyl amine	5
N-Nitroso-diphenyl amine	1
N-Nitroso-di-n-propyl amine	5
Phenanthrene	0.05
Pyrene	0.05
1,2,4-Trichlorobenzene	1
CHLORINATED PESTICIDES	**µg/l**
Aldrin	0.005
alpha-BHC	0.01
beta-BHC	0.005
delta-BHC	0.005
gamma-BHC (lindane)	0.02
alpha-chlordane	0.1
gamma-chlordane	0.1
4,4'-DDD	0.05
4,4'-DDE	0.05
4,4'-DDT	0.01
Dieldrin	0.01
alpha-Endosulfan	0.02
beta-Endosulfan	0.01
Endosulfan sulfate	0.05
Endrin	0.01
Endrin aldehyde	0.01
Heptachlor	0.01
Heptachlor Epoxide	0.01
Toxaphene	0.5
Polychlorinated Biphenyls	**µg/l**
Aroclor-1016	0.5
Aroclor-1221	0.5
Aroclor-1232	0.5
Aroclor-1242	0.5
Aroclor-1248	0.5

CONSTITUENTS	MLs
Polychlorinated Biphenyls	**µg/l**
Aroclor-1254	0.5
Aroclor-1260	0.5
ORGANOPHOSPHATE PESTICIDES	**µg/l**
Chlorpyrifos	0.05
Diazinon	0.01
Prometryn	2
Atrazine	2
Simazine	2
Cyanazine	2
Malathion	1
HERBICIDES	**µg/l**
Glyphosate	5
2,4-D	0.02
2,4,5-TP-SILVEX	0.2

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2002-XXX

NPDES NO. CA0083470

ATTACHMENT B - REPORTING FORMAT

CITY OF STOCKTON
AND
COUNTY OF SAN JOAQUIN
STORM WATER DISCHARGES FROM
MUNICIPAL SEPARATE STORM SEWER SYSTEM
SAN JOAQUIN COUNTY

This form summarizes the requirements in Order No. R5-2002-XXX. Each Permittee must complete this form in its entirety. Report only activities that were performed during the previous fiscal year. Attachments should be included where necessary to provide sufficient information on program implementation.

The goals of this Report are to: 1) Accurately document implementation of the Storm Water Management Plan (SWMP) during the past fiscal year; 2) Evaluate program results for continuous improvement; 3) Determine compliance with Order R5-2002-XXX; and 4) Share this information with other municipal decision makers and the public.

!	YOU MUST FILL OUT ALL THE INFORMATION REQUESTED *Do not leave any of the sections blank.*
N/A	If the question does not apply to your municipality, please indicate N/A in the space provided and provide a brief explanation
U	If the information requested is currently unavailable, please indicate U in the space provided and give a brief explanation.

This Report Form consists of the following sections:

Reporting Year 200__ - 200__

I. Program Management

A. Permittee Name: _____

B. Permittee Program Supervisor: _____
Title:
Address:
City: Zip Code:
Phone: Fax:

C. In the space below, briefly describe how the storm water program is coordinated within your agency's departments and divisions. Include a description of any problems with coordination between departments. To facilitate this, complete Table 1.

TABLE 1 - Program Management

Storm Water Management Activity	Division/Department	# of Individuals Responsible for Implementation
1. Outreach & Education		
2. Industrial/Commercial Inspections		
3. Construction Permits/Inspections		
4. IC/ID Inspections		
5. Street sweeping		
6. Catch Basin Cleaning		
7. Spill Response		
8. Development Standards Program (Dev. plan review and approval)		
9. Trash Collection		

D. Staff and Training

Attach a summary of staff training over the last fiscal year. This shall include the staff name, department, type of training, and date of training.

E. Budget Summary

1. Does your municipality have a storm water utility? Yes ☐ No ☐
   If no, describe the funding source(s) used to implement the requirements of Order No. R5-2002-XXX.

2. Are the existing financial resources sufficient to accomplish all required activities? Yes ☐ No ☐
3. Complete Table 2 to the extent that accurate information is available. Indicate U in the spaces where the information is unavailable. Report any supplemental dedicated budgets for the same categories on the lines below the table.
4. List any additional state/federally funded projects related to storm water.

TABLE 2

Program Element	Expenditures in Previous Fiscal Year	Est. Amount Needed to implement Order R5-2002-XXX
1. Program management a. Administrative costs b. Capital costs		
2. Public Outreach/Public Education a. Public Outreach/Education b. Employee Training c. Business Outreach		
3. Industrial/Commercial Inspection Activities		
4. Development Standards		
5. Construction Program a. Construction inspections		
6. Municipal Program a. Maintenance of structural and treatment control BMPs b. Municipal street sweeping c. Catch basin cleaning d. Trash collection/recycling e. Capital costs f. Other		
7. IC/ID Program a. Operations and Maintenance b. Capitol Costs		
8. Monitoring		
9. Other		
10. TOTAL		

List any supplemental dedicated budgets for the above categories:

List any activities that have been contracted out to consultants/other agencies:

II. Report of Water Quality Exceedance (RWQE)

A. Are you aware, or have you been notified, of any discharges from your MS4 that cause or contribute to a condition of nuisance or to the violation of any applicable water quality standards? Yes ☐ No ☐

B. Has the Regional Board notified you that discharges from your MS4 are causing or contributing to an exceedance of water quality standards? Yes ☐ No ☐

C. If you answered Yes to either of the above questions, you must attach a RWQE Report. The Report must include the following:

1. A description of the pollutants that are in exceedance and an analysis of possible sources;
2. A plan to comply with the RWQE;
3. Changes to the RWQE to eliminate water quality exceedances;
4. Enhanced monitoring to demonstrate compliance; and
5. Results of implementation.

III. SWMP Implementation

A. Has your agency implemented the SWMP and any additional controls necessary to reduce the discharges of pollutants in storm water to the maximum extent practicable? Yes ☐ No ☐

B. In the box below, describe additional or different controls other than those specified in the SWMP, which your agency has implemented to reduce pollutants in storm water to the maximum extent practicable.

C. Storm Water Ordinance

1. Have you adopted a storm water and urban runoff ordinance to enforce all requirements of Order No. R5-2002-XXX? Yes ☐ No ☐
   If not, describe the status of adopting such an ordinance.

2. If yes, have you already submitted a copy of the ordinance to the Regional Board? Yes ☐ No ☐
   If not, please attach a copy to this Report.

3. Were any amendments made to your storm water ordinance during the last fiscal year? Yes ☐ No ☐
   If yes, attach a copy of amendments to this Report.

D. Discharge Prohibitions

1. List any non-storm water discharges you feel should be further regulated:

2. List any non-storm water discharges you feel should be exempt, and provide an explanation for each:

IV. SWMP Elements

A. Public Outreach Program

In addition to answering the following questions, attach a summary of all storm water education activities that your agency conducted or participated in last year.

1. No Dumping Message

a) How many storm drain inlets does your agency own?

b) How many storm drain inlets were marked with a no dumping message in the last fiscal year?

c) What is the total number of storm drain inlets that are legibly marked with a no dumping message?

If this number is less than the number in question 1.b, describe why all inlets have not been marked, the process used to implement this requirement, and the expected completion date.

d) How many public access points to creeks, channels, and other water bodies within your jurisdiction have been posted with no dumping signage in the past year?

Describe your agency's status of implementing this requirement by the date required in Order No. R5-2002-XXX.

2. Reporting Hotline

a) Has your agency established its own hotline for reporting and for general storm water management information? Yes ☐ No ☐

b) If so, what is the number?

c) Is this information listed in the government pages of the telephone book? Yes ☐ No ☐

d) If not, is your agency coordinated with the other Permittee hotline? Yes ☐ No ☐

e) Do you keep record of the number of calls received and how they were responded to? Yes ☐ No ☐

f) How many calls were received in the last fiscal year?

g) Describe the process used to respond to hotline calls.

h) Have you provided the other Permittee with your current reporting contact information? Yes ☐ No ☐

i) Have you compiled a list of the general public reporting contacts and posted it on your web site? Yes ☐ No ☐

If not, when is this scheduled to occur?

3. Outreach and Education

a) Describe the strategy developed to provide outreach and bilingual materials to target ethnic communities. Include an explanation of why each community was chosen as a target, how program effectiveness will be determined, and status of implementation.

b) Approximately how many impressions were made last year on the general public about storm water quality via print, local TV, local radio, or other media?

c) Describe efforts your agency made to educate local schools on storm water pollution.

d) Did you provide all schools within each school district in the Stockton Urbanized Area with materials necessary to educate a minimum of 50 percent of all school children (K-12) every two years on storm water pollution? Yes ☐ No ☐

If not, explain why.

e) Describe the strategy developed to measure the effectiveness of in-school educational programs, including assessing students' knowledge of storm water pollution problems and solutions before and after educational efforts.

For Permit Years 2-5, attach an assessment of the effectiveness of in-school storm water education programs.

f) What is the behavioral change target that was developed based on sociological data and other studies?

If no target has been developed, explain why and describe the status of developing a target.

What is the status of meeting the target by the end of Year 5?

4. Pollutant-Specific Outreach

a) Did your agency develop specific outreach programs to target pollutants in your area? Yes ☐ No ☐

b) Did your agency help distribute pollutant-specific materials in your area? Yes ☐ No ☐

c) Describe how your agency has made outreach material available to the general public, schools, community groups, contractors and developers, etc…

5. Businesses Outreach Program

a) Briefly describe the Business Outreach Program that has been developed to target gas stations and restaurant chains.

b) How many business owners/operators did your agency reach last year?

c) Is your agency meeting the requirement of reaching all gas station and restaurant corporations once every two years? Yes ☐ No ☐

If not, describe measures that will be taken to fully implement this requirement.

d) Has your agency developed and/or implemented a Business Assistance Program? Yes ☐ No ☐

If so, briefly describe your agency's program, including the number of businesses assisted, the type of assistance, and an assessment of the program's effectiveness.

6. Did you encourage local radio stations and newspapers to use public service announcements? Yes ☐ No ☐

How many media outlets were contacted?

Which newspapers or radio stations ran them?

Who was the audience?

7. Did you work with local business or the other Permittee to place non-traditional advertising? Yes ☐ No ☐

If so, describe the type of advertising.

8. Did you establish local community partnerships to distribute educational storm water pollution prevention material?

Describe the materials that were distributed: Yes ☐ No ☐

Yes ☐ No ☐

Who were the key partners?

9. Did you participate in or publicize workshops or community events to discuss storm water pollution?

10. Does your agency have a website that provides storm water pollution prevention information?

If so, what is the address?

11. Has awareness increased in your community regarding storm water pollution?

Do you feel that behaviors have changed? Yes ☐ No ☐

Explain the basis for your answers. Include a description of any evaluation methods that are used to determine the effectiveness of your agency's outreach.

Yes ☐ No ☐

12. How would you modify the storm water public education program to improve it on the City or County level?

B. Industrial/Commercial Facilities Program

1. Pollutant Source Inventory Database

Did you (individually or jointly) update the Database for Pollutant Sources Inventory? Yes ☐ No ☐

Comments/Explanation/Conclusion:

2. Inspection Program

Provide the reporting data as suggested in the following tables.

Category	Initial Number of Facilities at the start of cycle proposed for inspection by categories (after the initial year, the updated number based on the new data)	Number of facilities inspected in the current reporting year	% Completed at the time of this report for present cycle (from the initial value, and from the updated value after first cycle)	Total number since permit adoption
Landfills				
TSDF				
…				

Comments/Explanation/Conclusion:

3. BMPs Implementation

Provide the reporting data as suggested in the following table.

Category	Number of facilities inspected by category in this reporting year	Number of facilities identified as adequately implementing BMPs as specified in this reporting year	% adequately implementing in this reporting year	Number of facilities required to implement or upgrade in this reporting year	Number of facilities inspected by category in this reporting cycle	Number of facilities identified as adequately implementing BMPs as specified in this reporting cycle	% adequately implementing out of total in this reporting cycle	Number of facilities required to implement or upgrade in this reporting cycle	Total Number during this permit adequately implementing	Total Number during this permit required to implement or upgrade
Landfills										
…										

Comments/Explanation/Conclusion:

4. Enforcement Activities

Provide the reporting data as suggested in the following tables.

Enforcement Actions by categories (e.g. Warning letter, NOV, referral to DA, RB, etc.)	Number of facilities issued enforcement actions in the current reporting year	Number of facilities issued enforcement actions in the current reporting cycle	Number of facilities re-inspected due to enforcement actions in current reporting year	Number of facilities re-inspected due to enforcement actions in current reporting cycle	Number of facilities brought into compliance in the current reporting year	Number of facilities brought into compliance in current reporting cycle	Total number of enforcement actions since permit adoption (by category)

Facilities by category	Number of Warning letters	Number of NOVs	Number of Referral	Number of Other Enforcement Actions
Comments/Explanation/Conclusion:				

5. Program Implementation Effectiveness Assessment

Please give a brief assessment of the implementation of the program in removing pollutants from storm water discharges. Please provide an explanation. Suggested improvements or adjustments based on the knowledge gained through this reporting period activities must be reflected in a change in the SWMP, if warranted.

Highly Effective ☐ Somewhat Effective ☐ Non-effective ☐

Comments/Explanation/Conclusion:	

6. You must also submit quarterly an electronic copy of your Industrial/Commercial Facilities Program activities.

C. Development Standards Program

1. Does your agency have a process to minimize impacts from storm water and urban runoff on the biological integrity of natural drainage systems and water bodies in accordance with requirements under CEQA, Section 404 of the CWA, local ordinances, and other legal authorities? Yes ☐ No ☐

   Attach examples showing how storm water quality impacts were addressed in environmental documents for projects over the past year.

2. Does your agency have procedures to include the following requirements in all priority development and redevelopment projects:

   a) Maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground? Yes ☐ No ☐

   b) Minimize the quantity of storm water directed to impermeable surfaces and the MS4? Yes ☐ No ☐

   c) Minimize pollution emanating from parking lots through the use of appropriate treatment control BMPs and good housekeeping practices? Yes ☐ No ☐

   d) Provide for appropriate permanent measures to reduce storm water pollutant loads from the development site? Yes ☐ No ☐

3. List the types and numbers of BMPs that your agency required for priority projects to meet the requirements described above.

4. Describe the status of the development or implementation of peak flow controls in Natural Drainage Systems.

5. Has your agency amended codes and/or ordinances to give legal effect to the Development Standards changes required in the Permit? Yes ☐ No ☐

6. Describe the process your agency uses to include Development Standards design criteria in new development and redevelopment project approvals.

7. How many of the following projects did your agency review and condition to meet Development Standards requirements last year?

   a) Residential

   b) Commercial

   c) Industrial

   d) Automotive Service Facilities

   e) Retail Gasoline Outlets

   f) Restaurants

   g) Parking Lots

   h) Projects located in or directly adjacent to or discharging directly to an environmentally sensitive area

   i) Total number of permits issued to priority projects

8. What is the percentage of total development projects that were conditioned to meet Development Standards requirements? %

9. How has your agency prepared to reduce the Development Standards threshold for industrial/commercial facilities to 1 acre from 100,000 square feet in 2003?

10. After 2003, how many additional projects per year will require/did require implementation of Development Standards requirements as a result of the lower threshold?

11. Does your agency participate in an approved regional or sub-regional storm water mitigation program to substitute in part or wholly Development Standards requirements for new development? Yes ☐ No ☐

12. Has your agency modified its planning procedures to prepare and review CEQA documents to consider potential storm water quality impacts and provide for appropriate mitigation? Yes ☐ No ☐

If no, provide an explanation and an expected date of completion.

13. Did your agency update any of the following General Plan elements in the past year?

a) Land Use Yes ☐ No ☐

b) Housing Yes ☐ No ☐

c) Conservation Yes ☐ No ☐

d) Open Space Yes ☐ No ☐

If yes, please describe how watershed and storm water quality and quantity management considerations were included.

14. How many targeted staff were trained last year?

15. How many targeted staff are trained annually?

16. What percentage of total staff are trained annually? %

17. Has your agency developed and made available development planning guidelines in conformance with the Development Standards? Yes ☐ No ☐

18. If not, what is the expected date that guidelines will be developed and available to developers?

19. Is your agency preparing a technical manual for siting and design of BMPs for the development community?

D. Construction Program

1. Describe your agency's program to control runoff from construction activity at all construction sites within its jurisdiction.

2. Does your agency require the preparation, submittal, and implementation of a Local Storm Water Pollution Prevention Plan (Local SWPPP) prior to the issuance of a grading permit for all sites that meet one or all of the following criteria?

   a) Will result in soil disturbance of one acre or greater — Yes ☐ No ☐

   b) Is within, directly adjacent to, or is discharging directly to an environmentally sensitive area — Yes ☐ No ☐

3. Attach one example of a local SWPPP

4. Describe the process your agency uses to require proof of filing a Notice of Intent for coverage under the State General Construction Activity Storm Water Permit (General Construction Permit) and a certification that a SWPPP has been prepared prior to issuing a grading permit?

5. How many building/grading permits were issued to sites requiring Local SWPPPs last year?

6. How many building/grading permits were issued to sites requiring coverage under the General Construction Permit last year?

7. How many building/grading permits were issued to construction site less than one acre in size last year?

8. How many construction sites were inspected during the last wet season?

9. Complete the table below.

Type of Violation	**# of Violations**	**% of Total Inspections**	**# of Follow-up Inspections**	**# of Enforcement Actions**
Off-site discharge of sediment				
Off-site discharge of other pollutants				
No or inadequate SWPPP				
Inadequate BMP/SWPPP implementation				

10. Describe the process for taking enforcement actions against construction site violations, including the types of actions that are taken.

11. Describe the system that your agency uses to track the issuance of grading permits.

E. Municipal Program

1. Sewage System Maintenance, Overflow, and Spill Prevention (only applicable to agencies that own and/or operate a sanitary sewer system)

a) Has your agency developed and implemented a response plan for sanitary sewer overflows that includes the requirements in Order No. R5-2002-XXX? Yes ☐ No ☐

b) How many sanitary sewer overflows occurred within your jurisdiction?

c) How many did your agency respond to?

d) Did your agency investigate all complaints received? Yes ☐ No ☐

e) How many complaints were received?

f) Upon notification, did your agency immediately respond to overflows by containment? Yes ☐ No ☐

g) Did your agency notify appropriate sewer and public health agencies when a sewer overflowed to the MS4? Yes ☐ No ☐

h) Did your agency implement a program to prevent sewage spills or leaks from sewage facilities from entering the MS4? Yes ☐ No ☐

If so, describe the program:

i) Did your agency implement a program to identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4? Yes ☐ No ☐

If so, describe the program:

2. Public Construction Activities Management

a) What percentage of public construction sites 5 acres or greater did your agency obtain coverage under the General Construction Permit? ☐ %

b) Give an explanation for any sites greater than 5 acres that were not covered:

c) What is the total number of active public construction sites?

How many were 5 acres or greater?

d) (After March, 2003) Did your agency obtain coverage under the General Construction Permit for public construction sites one acre or greater? Yes ☐ No ☐

3. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

a) Did your agency implement pollution prevention plans for each public vehicle maintenance facility, material storage facility, and corporation yard? Yes ☐ No ☐

b) Briefly describe how your agency implements the following, and any additional, BMPs to minimize pollutant discharges in storm water:

(1) Good housekeeping practices

(2) Material storage control

(3) Vehicle leaks and spill control

(4) Illicit discharge control

c) Are all Permittee owned and/or operated vehicle/equipment wash areas self-contained, covered, equipped with a clarifier, and properly connected to the sanitary sewer? Yes ☐ No ☐

If not, what is the status of implementing this requirement?

d) How many Permittee owned and/or operated vehicle/equipment wash areas are scheduled to be redeveloped to include the BMPs listed above?

4. Landscape and Recreational Facilities Management

a) Has your agency developed a standardized protocol for the routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers? Yes ☐ No ☐

Briefly describe this protocol:

b) How does your agency ensure that there is no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied?

c) Are any banned pesticides, herbicides, fungicides, or rodenticides stored or applied in your agency's jurisdiction that you know of? Yes ☐ No ☐

If so, list them:

d) What percentage of your agency's staff that apply pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator?

e) Describe procedures your agency has implemented to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs:

5. Storm Drain Operation and Management

a) Did your agency designate catch basin inlets within its jurisdiction as Priority A; Priority B; and Priority C? Yes ☐ No ☐

b) How many of each designation exist in your jurisdiction?

Priority A:
Priority B:
Priority C:

c) How many times were all Priority A basins cleaned last year?

d) How many times were all Priority B basins cleaned last year?

e) How many times were all Priority C basins cleaned last year?

f) How much total waste was collected in tons from catch basin clean-outs last year?

g) Attach a record of all catch basins in your jurisdiction. This shall identify each basin as City or County owned, and Priority A, B, or C. For all basins that are owned and operated by your agency, include dates that each was cleaned out over the past year.

h) Did your agency place and maintain trash receptacles at all transit stops within its jurisdiction. Yes ☐ No ☐

i) How many new trash receptacles were installed last year?

j) Did your agency place special conditions for events that generated substantial quantities of trash and litter including provisions that:

(1) Provide for the proper management of trash and litter generated from the event? Yes ☐ No ☐

(2) Arrange for temporary screens to be placed on catch basins? Yes ☐ No ☐

(3) Require catch basins in that area to be cleaned out subsequent to the event and prior to any rain? Yes ☐ No ☐

k) Did your agency inspect the legibility of the catch basin stencil or labels? Yes ☐ No ☐

What percentage of stencils was legible?

l) Were illegible stencils recorded and re-stenciled or re-labeled within 180 days of inspection? Yes ☐ No ☐

m) Did your agency visually monitor Permittee-owned open channel storm drains and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection? Yes ☐ No ☐

Is the prioritization attached? Yes ☐ No ☐

n) Did your agency review its maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality? Yes ☐ No ☐

What changes have been made?

o) Did your agency remove trash and debris from open channel storm drains a minimum of once per year before the storm season? Yes ☐ No ☐

p) How did your agency minimize the discharge of contaminants during MS4 maintenance and clean outs?

q) Where is removed material disposed of?

6. Streets and Roads Maintenance

a) Did your agency designate streets and/or street segments within its jurisdiction as one of the following:

(1) Priority A – streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or litter? Yes ☐ No ☐

(2) Priority B - streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or litter? Yes ☐ No ☐

(3) Priority C – streets and/or street segments that are designated as generating low volumes of trash and/or litter? Yes ☐ No ☐

b) Did your agency perform all street sweeping in compliance with the permit and according to the following schedule:

(1) Priority A – These streets and/or street segments shall be swept at least two times per month? Yes ☐ No ☐

(2) Priority B - Each Permittee shall ensure that each streets and/or street segments is cleaned at least once per month? Yes ☐ No ☐

(3) Priority C – These streets and/or street segments shall be cleaned as necessary but in no case less than once per year? Yes ☐ No ☐

c) Did your agency require that saw cutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain? Yes ☐ No ☐

d) Did your agency require that concrete and other street and road maintenance materials and wastes be managed to prevent pollutant discharges? Yes ☐ No ☐

e) Did your agency require that the washout of concrete trucks and chutes only occur in designated areas and never into storm drains, open ditches, streets, or catch basins leading to the storm drain system? Yes ☐ No ☐

f) Did your agency train its employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to:

(1) Promote a clear understanding of the potential for maintenance activities to pollute storm water? and Yes ☐ No ☐

(2) Identify and select appropriate BMPs? Yes ☐ No ☐

7. Parking Facilities Management

a) Did your agency ensure that Permittee-owned parking lots be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. Yes ☐ No ☐

b) Were any Permittee-owned parking lots cleaned less than once a month? Yes ☐ No ☐

How many?

8. Municipal Program

a) Did your agency, for all municipal activity considered an industrial activity under U.S. EPA Phase I storm water regulations, obtain separate coverage under the State of California General Industrial Activities Storm Water Discharge Permit no later than 31 December 2001? Yes ☐ No ☐

b) Does your agency serve a population of less than 100,000 people? Yes ☐ No ☐

9. Emergency Procedures

a) In case of real emergencies, did your agency repair essential public services and infrastructure in a manner to minimize environmental damage? Yes ☐ No ☐

b) Were BMPs implemented to the extent that measures did not compromise public health and safety? Yes ☐ No ☐

10. Feasibility Study

a) Did your agency investigate the possible diversion of dry weather flows or the use of alternative treatment control BMPs? Yes ☐ No ☐

b) Did your agency review its individual prioritized list submit a listing of priority diversions to the Regional Board Executive Officer? Yes ☐ No ☐

F. Illicit Connections and Illicit Discharges (IC/ID) Elimination

1. Attach a copy of your agency's IC/ID Elimination Implementation Program

2. Attach a map of your storm drain system showing all permitted connections (if available), and the locations of all illicit connections and discharges that occurred last year. If your agency has not completed this requirement, describe the status of the development of a baseline map, including an expected completion date.

3. Describe your enforcement procedures for eliminating illicit discharges and terminating illicit connections.

4. Describe your record keeping system to document all illicit connections and discharges.

5. What is the total length of open channel that your agency owns and operates?

6. What length was screened last year for illicit connections?

7. What is the total length of closed storm drain that your agency owns and operates?

8. What length was screened last year for illicit connections?

9. Describe the method used to screen your storm drains.

10. Provide the reporting data for illicit connections as suggested in the following table (you may submit a spreadsheet from your database that contains the information).

Year	Total No. Reported/ Identified	Total No. Investigated	No. of exempt discharges or NPDES permitted	No. of illicit discharges terminated	Number of connections removed	No. of enforce-ment actions	No. of *other* actions
02/03							
03/04							
04/05							
05/06							
06/07							

11. Explain any *other* actions that occurred in the last year.

12. What is the average time it takes your agency to initiate an illicit connection investigation after it is reported?

a) Were all identified connections terminated within 180 days? Yes ☐ No ☐

b) If not, explain why.

13. Provide the reporting data for illicit discharges as suggested in the following table (you may submit a spreadsheet from you database that contains this information).

Year	Total number reported	Number of source IDed, discontinued, cleaned up voluntarily or through enforcement	Number of source not IDed, but cleaned up	No. that resulted in no evidence of discharge	No. of conditionally exempt	No. exempt or in compliance and source identified	Number of enforce-ment action
02/03							
03/04							
04/05							
05/06							
06/07							

14. What is the average response time after an illicit discharge is reported?

a) Did any response times exceed 72 hours? Yes ☐ No ☐

b) If yes, explain why.

15. Describe the your agency's spill response procedures.

16. What would you do differently to improve your agency's IC/ID Elimination Program?

17. Attach a list of all permitted connections to your storm sewer system.

V. Monitoring and Reporting Requirements

Briefly describe any storm water monitoring activities that are not required by Order No. R5-2002-XXX that your municipality conducted, participated in, or received funding to conduct in the past fiscal year. These activities should correspond with the dollar amount you listed in Table 2.

When reporting data, the Permittee shall arrange the information in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner as to illustrate clearly the compliance with this Order.

Sampling Station	Sampling Date	Constituent 1 Concentration	Constituent 2 Concentration	Constituent 'n' Concentration
↓	↓	↓	↓	↓

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all reports and work plans shall be prepared by a registered professional or their subordinate and signed by the registered professional.

VI. Assessment of Program Effectiveness

A. Attach a summary of the effectiveness of your storm water management program. This summary should include, at a minimum, the following:

1. An assessment of your agency's compliance with permit requirements, based on your responses to the questions in this form;

2. Descriptions of any evaluation methods that your agency uses to determine the effectiveness of your storm water management program;

3. A summary of the strengths and weaknesses of your agency's storm water management program;

4. A list of specific program highlights and accomplishments;

5. A description of water quality improvements or degradation in your watershed over the past fiscal year;

6. Interagency coordination between agencies to improve the storm water management program;

7. Future plans to improve your agency's storm water management program; and

8. Suggestions to improve the effectiveness of your program.

B. List any suggestions your agency has for improving program reporting and assessment.

VII. Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ___ day of _____ , 20_,

at _____.

Printed Name _____ Title _____

(Signature) _____

Signature by duly authorized representative

ATTACHMENT C - DEFINITIONS
ORDER NO. R5-2002-XXX
CITY OF STOCKTON AND COUNTY OF SAN JOAQUIN
MUNICIPAL SEPARATE STORM SEWER SYSTEM
SAN JOAQUIN COUNTY

Adverse Impact means a detrimental effect upon water quality or beneficial uses caused by a discharge or loading of a pollutant or pollutants.

Anti-degradation Policy means the *Statement of Policy with Respect to Maintaining High Quality Water in California* (State Board Resolution No. 68-16) which protects surface and ground waters from degradation. In particular, this policy protects water bodies where existing quality is higher than that necessary for the protection of beneficial uses including the protection of fish and wildlife propagation and recreation on and in the water.

Applicable Standards and Limitations means all state, interstate, and federal standards and limitations to which a discharge or a related activity is subject under the Clean Water Act (CWA), including effluent limitations, water quality standards, standards of performance, toxic effluent standards or prohibitions, best management practices, and pretreatment standards under CWA Sections 301, 302, 303, 304, 306, 307, 308, 403 and 404.

Authorized Discharge means any discharge that is authorized pursuant to a National Pollutant Discharge Elimination System (NPDES) permit or meets the conditions set forth in this Order.

Automotive Service Facilities means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 5511, 7532-7534, or 7536-7539.

Basin Plan means the *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins*. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve water quality objectives for all waters of the Basin.

Beneficial Uses means the existing or potential uses of receiving waters in the permit area as designated by the Regional Board in the Basin Plan.

Best Management Practices (BMPs) means methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and nonstructural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.

Commercial Development means any development on private land that is not heavy industrial or residential. The category includes, but is not limited to hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, car wash facilities, mini-malls, business complexes, shopping malls, hotels, office buildings, public warehouses, and light industrial complexes.

Construction means clearing, grading, excavating, etc. that results in soil disturbance. Construction includes structure teardown. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility; emergency construction activities required to

immediately protect public health and safety; interior remodeling with no outside exposure of construction material or construction waste to storm water; mechanical permit work; or sign permit work.

Control means to minimize, reduce, eliminate, or prohibit by technological, legal, contractual or other means, the discharge of pollutants from an activity or activities.

Dechlorinated/Debrominated Swimming Pool Discharge means swimming pool discharges which have no measurable chlorine or bromine and do not contain any detergents, wastes, or additional chemicals not typically found in swimming pool water. The term does not include swimming pool filter backwash.

Development means any construction, rehabilitation, redevelopment or reconstruction of any public or private residential project (whether single-family, multi-unit or planned unit development); industrial, commercial, retail and other non-residential projects, including public agency projects; or mass grading for future construction. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

Director means the Director of a municipality and Person(s) designated by and under the Director's instruction and supervision.

Discharge means when used without qualification the discharge of a pollutant.

Discharging Directly means outflow from a drainage conveyance system that is composed entirely or predominantly of flows from the subject, property, development, subdivision, or industrial facility, and not commingled with the flows from adjacent lands.

Discharge of a Pollutant means any addition of any pollutant or combination of pollutants to waters of the United States from any point source or, any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. The term discharge includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

Disturbed Area means an area that is altered as a result of clearing, grading, and/or excavation.

General Construction Activities Storm Water Permit (GCASP) means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from construction activities under certain conditions.

General Industrial Activities Storm Water Permit (GIASP) means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from certain industrial activities under certain conditions.

Illicit Connection means any man-made conveyance that is connected to the storm drain system without a permit, excluding roof drains and other similar type connections. Examples include channels, pipelines, conduits, inlets, or outlets that are connected directly to the storm drain system.

Illicit Discharge means any discharge to the storm drain system that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit discharge includes all non storm-water discharges except discharges pursuant to an NPDES permit, discharges that are identified in **Discharge Prohibitions** of this Order, and discharges authorized by the Regional Board.

Illicit Disposal means any disposal, either intentionally or unintentionally, of materials or wastes that can pollute storm water.

Industrial/Commercial Facility means any facility involved and/or used in the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, and any facility involved and/or used in providing professional and non-professional services. This category of facilities includes, but is not limited to, any facility defined by the SIC Code. Facility ownership (federal, state, municipal, private) and profit motive of the facility are not factors in this definition.

Infiltration means the downward entry of water into the surface of the soil.

Inspection means entry and the conduct of an on-site review of a facility and its operations, at reasonable times, to determine compliance with specific municipal or other legal requirements. The steps involved in performing an inspection, include, but are not limited to:

a. Pre-inspection documentation research.;
b. Request for entry;
c. Interview of facility personnel;
d. Facility walk-through.
e. Visual observation of the condition of facility premises;
f. Examination and copying of records as required;
g. Sample collection if necessary or required;
h. Exit conference to discuss preliminary evaluation; and,
i. Report preparation, and if appropriate, recommendations for coming into compliance.

In the case of restaurants, a Permittee may conduct an inspection from the curbside, provided that such curbside inspection provides the Permittee with adequate information to determine an operator's compliance with BMPs that must be implemented per requirements of this Order and the SWMP.

Medium Municipal Separate Storm Sewer System (MS4) means all MS4s that serve a population less than 250,000 (1990 Census) as defined in 40 CFR 122.26 (b)(4).

Local SWPPP means the Storm Water Pollution Prevention Plan required by the local agency for a project that disturbs one or more acres of land.

Maximum Extent Practicable (MEP) means the standard for implementation of storm water management programs to reduce pollutants in storm water. CWA § 402(p)(3)(B)(iii) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. See also State Board Order WQ 2000-11.

Method Detection Limit (MDL) means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR 136, Appendix B.

Minimum Level (ML) means the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Municipal Separate Storm Sewer System (MS4) means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, alleys, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned by a State, city, county, town or other public body, that is designed or used for collecting or conveying storm water, which is not a combined sewer, and which is not part of a publicly owned treatment works, and which discharges to Waters of the United States.

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under CWA §307, 402, 318, and 405.

Natural Drainage Systems means unlined or unimproved (not engineered) creeks, streams, rivers or similar waterways.

New Development means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

Non-Storm Water Discharge means any discharge to a storm drain that is not composed entirely of storm water.

Nuisance means anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.; (3) occurs during, or as a result of, the treatment or disposal of wastes.

Parking Lot means land area or facility for the parking or storage of motor vehicles used for businesses, commerce, industry, or personal use, with a lot size of 5,000 square feet or more of surface area, or with 25 or more parking spaces.

Permittees means Co-Permittees and any agency named in this Order as being responsible for permit conditions within its jurisdiction. Permittees to this Order include the City of Stockton and County of San Joaquin.

Planning Priority Projects means those projects that are required to incorporate appropriate storm water mitigation measures into the design plan for their respective project. These types of projects include:

a. Ten or more unit homes including single family homes, multifamily homes, condominiums, and apartments;
b. A 100,000 or more square feet of impervious surface area industrial/ commercial development (1 acre starting March 2003);
c. Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539);
d. Retail gasoline outlets;
e. Restaurants (SIC 5812);
f. Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces;
g. Redevelopment projects in subject categories that meet Redevelopment thresholds;
h. Projects located in or directly adjacent to or discharging directly to an ESA, which meet thresholds; and
i. Those projects that require the implementation of a site-specific plan to mitigate post-development storm water for new development not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality, where the following project characteristics exist:

    1) Vehicle or equipment fueling areas;
    2) Vehicle or equipment maintenance areas, including washing and repair;
    3) Commercial or industrial waste handling or storage;
    4) Outdoor handling or storage of hazardous materials;
    5) Outdoor manufacturing areas;
    6) Outdoor food handling or processing;
    7) Outdoor animal care, confinement, or slaughter; or
    8) Outdoor horticulture activities.

Pollutants means those substances defined in CWA §502(6) (33.U.S.C.§1362(6)), and incorporated by reference into California Water Code §13373.

Potable Water Distribution Systems Releases means sources of flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, distribution line testing, fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, and minor non-invasive well maintenance activities not involving chemical addition(s). It does not include wastewater discharges from activities that occur at wellheads, such as

well construction, well development (i.e., aquifer pumping tests, well purging, etc.), or major well maintenance.

Project means all development, redevelopment, and land disturbing activities. The term is not limited to "Project" as defined under CEQA (Pub. Resources Code §21065).

Rain Event means any rain event greater than 0.1 inch in 24 hours except where specifically stated otherwise.

Receiving Waters means all surface water bodies in the Central Valley Region that are identified in the Basin Plan.

Redevelopment means land-disturbing activity that results in the creation, addition, or replacement of 5,000 square feet or more of impervious surface area on an already developed site. Redevelopment includes, but is not limited to: the expansion of a building footprint; addition or replacement of a structure; replacement of impervious surface area that is not part of a routine maintenance activity; and land disturbing activities related to structural or impervious surfaces. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

Regional Administrator means the Regional Administrator of the Regional Office of the U.S. Environmental Protection Agency (EPA) or the authorized representative of the Regional Administrator.

Restaurant means a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC Code 5812).

Retail Gasoline Outlet means any facility engaged in selling gasoline and lubricating oils.

Runoff means any runoff including storm water and dry weather flows from a drainage area that reaches a receiving water body or subsurface. During dry weather it is typically comprised of base flow either contaminated with pollutants or uncontaminated, and nuisance flows.

Screening means using proactive methods to identify illicit connections through a continuously narrowing process. The methods may include: performing baseline monitoring of open channels, conducting special investigations using a prioritization approach, analyzing maintenance records for catch basin and storm drain cleaning and operation, and verifying all permitted connections into the storm drains. Special investigation techniques may include: dye testing, visual inspection, smoke testing, flow monitoring, infrared, aerial and thermal photography, and remote control camera operation.

Sidewalk Rinsing means pressure washing of paved pedestrian walkways with average water usage of 0.006 gallon per square foot, with no cleaning agents, and properly disposing of all debris collected.

Significant Natural Area (SNA) means an area defined by the California Department of Fish and Game (DFG), Significant Natural Areas Program, as an area that contains an important example of California's biological diversity. The most current SNA maps, reports, and descriptions can be downloaded from the DFG website at ftp://maphost.dfg.ca.gov/outgoing/whdab/sna/. These areas are identified using the following biological criteria only, irrespective of any administrative or jurisdictional considerations:

a. Areas supporting extremely rare species or habitats;
b. Areas supporting associations or concentrations of rare species or habitats; and
c. Areas exhibiting the best examples of rare species and habitats in the state.

Site means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.

Source Control BMP means any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

SWMP means the City of Stockton and County of San Joaquin Stormwater Management Program.

State Storm Water Pollution Prevention Plan (State SWPPP) means a plan, as required by a State General Permit, identifying potential pollutant sources and describing the design, placement and implementation of BMPs, to effectively prevent non-stormwater Discharges and reduce Pollutants in Stormwater Discharges during activities covered by the General Permit.

Storm Water means storm water runoff, snow melt runoff, and surface runoff and drainage.

Storm Water Discharge Associated with Industrial Activity means industrial discharge as defined in 40 CFR 122.26(b)(14)

Storm Water Management Program means the City of Stockton and County of San Joaquin program, which includes all elements and descriptions, collectively developed by the Permittees in accordance with provisions of the NPDES Permit, to comply with applicable federal and state law.

Structural BMP means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.

SUSMP or Development Standards means Standard Urban Stormwater Mitigation Plans. They are standards which the Permittees must develop and implement for new development and significant redevelopment projects to control the discharge of storm water pollutants in post-construction storm water.

Total Maximum Daily Load (TMDL) means the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background.

Toxicity Identification Evaluation (TIE) means a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

Toxicity Reduction Evaluation (TRE) means a study conducted in a step-wise process to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity.

Treatment means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media absorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

Treatment Control BMP means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

U.S. EPA Phase I Facilities means facilities in specified industrial categories that are required to obtain an NPDES permit for storm water discharges, as required by 40 CFR 122.26(c). These categories include facilities subject to storm water effluent limitation guidelines, new source performance standards, or toxic pollutant effluent standards (40 CFR N); manufacturing facilities; oil and gas/mining facilities; hazardous waste treatment, storage, or disposal facilities; landfills, land application sites, and open dumps; recycling facilities; steam electric power generating facilities; transportation facilities sewage of wastewater treatment works; and light manufacturing facilities.

Vehicle Maintenance/Material Storage Facilities/Corporation Yards means any Permittee owned or operated facility or portion thereof that conducts industrial activity, operates equipment, handles materials, and provides services similar to Federal Phase I facilities; performs fleet vehicle service/maintenance on ten or more vehicles per day including repair, maintenance, washing, and fueling; performs maintenance and/or repair of heavy industrial machinery/equipment ; and stores chemicals, raw materials, or waste materials in quantities that require a hazardous materials business plan or a Spill Prevention, Control, and Counter-measures (SPCC) plan.

Water Quality Standards and Water Quality Objectives means water quality criteria contained in the Basin Plan, the National Toxics Rule, the California Toxics Rule, and other state or federally approved surface water quality plans. Such plans are used by the Regional Board to regulate all discharges, including storm water discharges.

Waters of the State means any surface water or groundwater, including saline waters, within boundaries of the state.

Waters of the United States means:

a. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

b. All interstate waters, including interstate wetlands;

c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

   1. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
   2. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
   3. Which are used or could be used for industrial purposes by industries in interstate commerce;

d. All impoundments of waters otherwise defined as waters of the United States under this definition;

e. Tributaries of waters identified in paragraphs (a) through (d) of this definition;

f. The territorial sea; and
g. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.22(m), which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to man-made bodies of water, which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with U.S. EPA.

Wet Season means the calendar period beginning October 1 through April 15.